GRUNDIG

CUC 741
CUC 732
CUC 731

VERS. A: GERÄTE MIT SYMMETR. GEHÄUSE
SETS WITH SYMM. CABINET
APPAR. CON MOBILE SIMMETRICO

T 2669	(9.25072-01)
T 2269	(9.25073-01)
STEREO 66 1602-	(9.25068-01)
STEREO 56-1602	(9.25070-01)
STEREO 66-1603	(9.25077-01)
STEREO 66-160	(9.25011-01)
STEREO 66-1601	(9.25043-01)
STEREO 56-160	(9.25012-01)
STEREO 56-1601	(9.25044-01)
WIEN 160	(9.25061-01)
SALZBURG 160	(9.25062-01)
HOHENSTEIN 66-166	(9.25041-01)
STEREO 66-180 HIFI	(9.25010-01)
S.C. C 8880/VC	(9.24928-01)
S.C. C 8880/TV HIFI A	(9.24990-01)
STEREO 66-160 P/S-FR	(9.25011-13)
STEREO 56-160 P/S-FR	(9.25012-13)

VERS. B: GERÄTE MIT WÜRFEL GEHÄUSE U. SCHUBLADENBED.
SETS WITH CUBE CABINET AND DRAWER CONTROL PANEL.
APPAR. CON MOBILE A CUBO E CARRELLO PORTAELEM.
DI COMANDO.

S.C. C 8890	(9.24921-01)
S.C. C 8690 GB	(9.24977-63)

VERS. C: GERÄTE MIT WÜRFEL GEHÄUSE
SETS WITH CUBE CABINET
APPAR. CON MOBILE A CUBO

STEREO 66-165	(9.25018-01)
STEREO 56-165	(9.25042-01)

CUC 741 (2 x 30 W)
CUC 732 (2 x 15 W)
CUC 731 (2 x 10 W)

NETZTEIL - CHASSIS (30 W) 29701 - 031.51 VERS. A
MAINS SECTION CHASSIS - 031.71 VERS. B+C
TELAIO ALIMENTATORE

(15 W) 29701 - 032.53 VERS. A
- 032.73 VERS. B+C

(10 W) 29701 - 032.51 VERS. A
- 032.71 VERS. B+C

BILDROHRPLATTE 29304-070.21
CRT BASE
PIASTRA CINESCOPIO

TR 526
ZEILENTRAFO - ANSCHLÜSSE VON UNTEN GESEHEN
LINE TRANSF. CONNECTIONS BOTTOM VIEW
COLLEGAM. TRASF. DI RIGA VISTI DA SOTTO

TR 651
(30 W) AZ 56330
(10 W) AZ 56402
(15 W) AZ 56408

TDA 4950 IC 555

TDA 4600/3035 IC 631

TY 40163 IC 681

TY 40164 IC 686

MC 78 MOS CT IC 663

BC 548 T 312

BC 637 T 504

BU 208 T 503

BU 208A T 634

TY 40163/TY 40164 MC 78 MOS CT

TDA 4950

TDA 4600/3035

VON UNTEN GESEHEN
SEEN FROM BOTTOM
VISTO DI SOTTO

PRINTED IN GERMANY

ÄNDERUNGEN VORBEHALTEN / SUBJECT TO ALTERATION / CON RISERVA DI MODIFICHE

0Vss

(20) B 20Vss

(21) A 1.2Vss

R533
SCHUTZSCHALTUNG
CIRCUIT PROTECTION
CIRCUITO DI PROTEZIONE

7KV

22N C702

C722

6,3Ω J170 J171 J180

25KV

110°

L520

AT 1870 (25")
AT 1860 (22")

J1126 JH 0J516

1,5mH

J5.2 J704

10K R727

C702

390K R721

700V

390K R722

0,15U C722 MKS 4 (16)

360K R723

70.21

A 56-540 X (22")
A 66-540 X (26")

BEI VERS B+C AUSSERHALB VOM CHASSIS
ON VERS B+C OUTSIDE OF CHASSIS
NELLE VERS. B+C AL DI FUORI DEL TELAIO

3,3N C343

3,3N C344

NF-R
AF-R / BF-D

NF-L
AF-L / BF-S

BUCHSENFL.-STECKER H
(3) SOCKETS BOARD PLUG H
SPINA H PIASTRA PRESE ALTOP

ABSTIMMUNG-ANSCHL. 30
TUNING-CONN. 30
SINTONIA-COLLEG. 30

20 UH L683

+A (152 V)

+C / 200 V

+F / 15 V

+L / 15 V

0,1U C682

100U/25V C681

0,1U C685

0,1U C689

R684

1/5W (30W)
3,3/5W (30W)
3,9/10W (35W)

(30W) G/2-G/3
(10/15W) G/2

+G

-G

+M / 19 V

0164
686

0,1U C687

220U/25V C688

+B / 12 V

+E / 8,5 V

MOSCT

0,1U C664

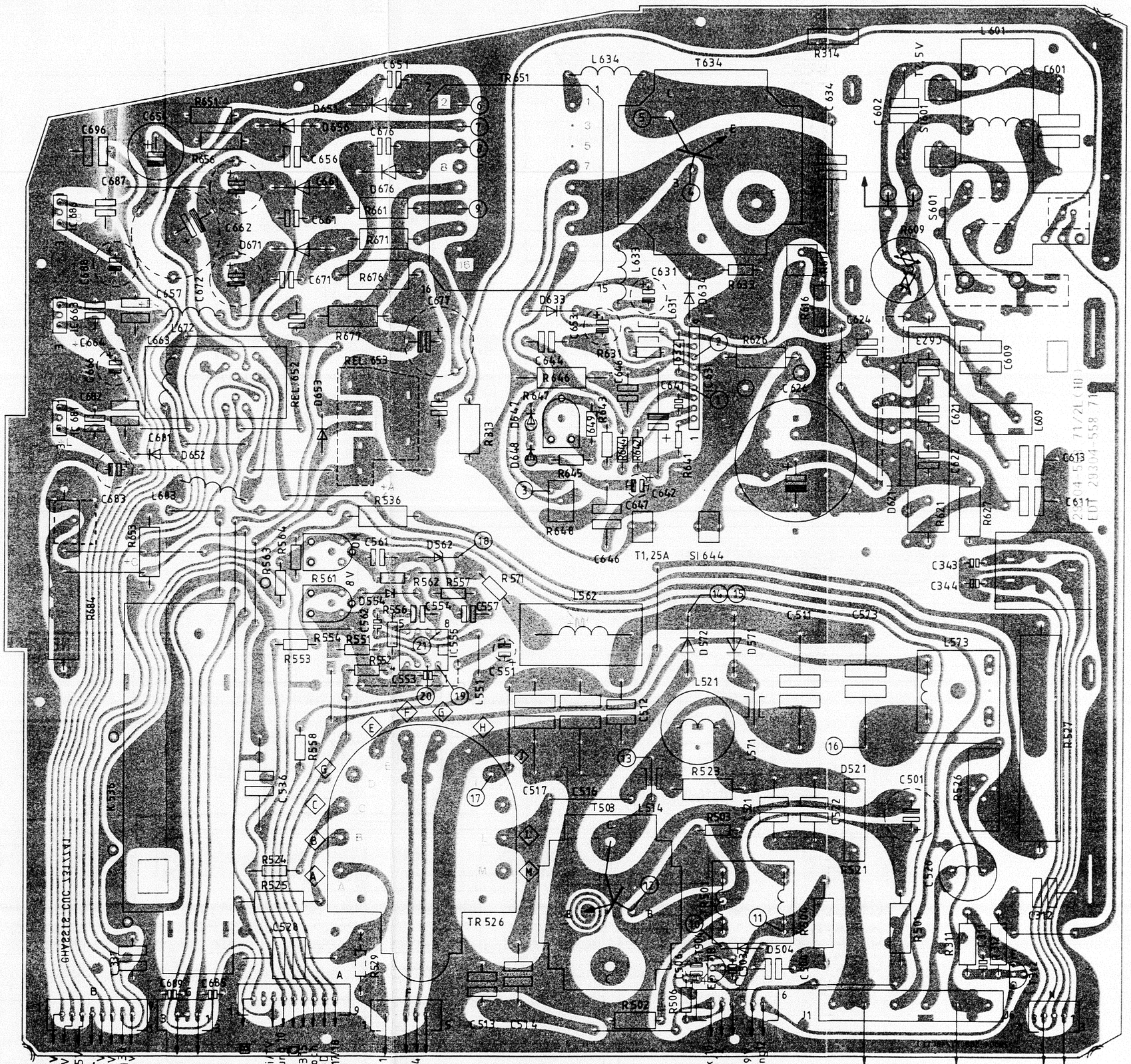
100U/16V C666

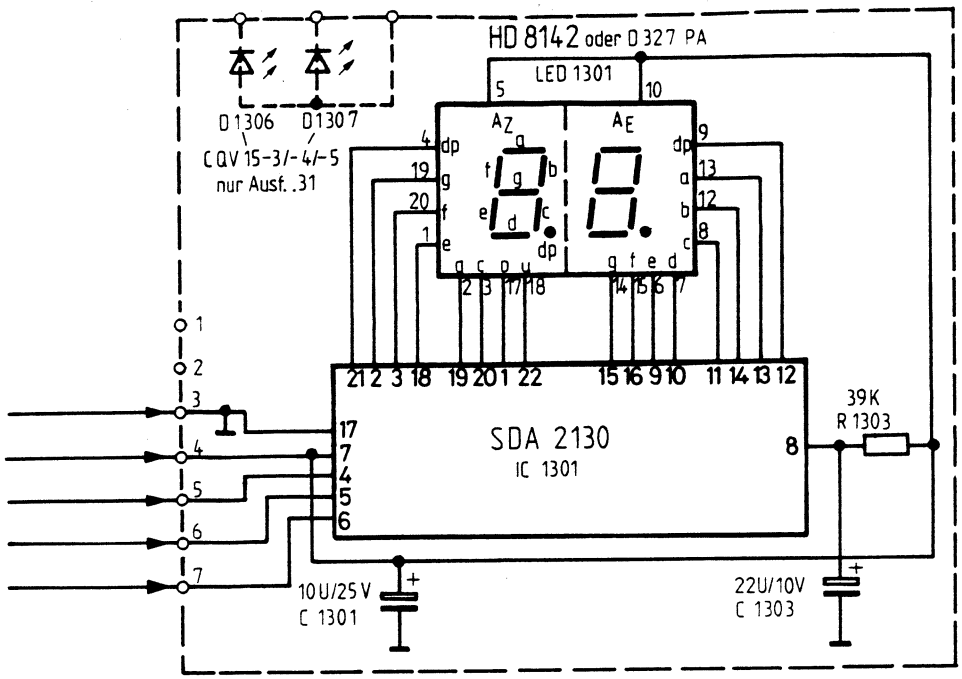
+H / 5 V

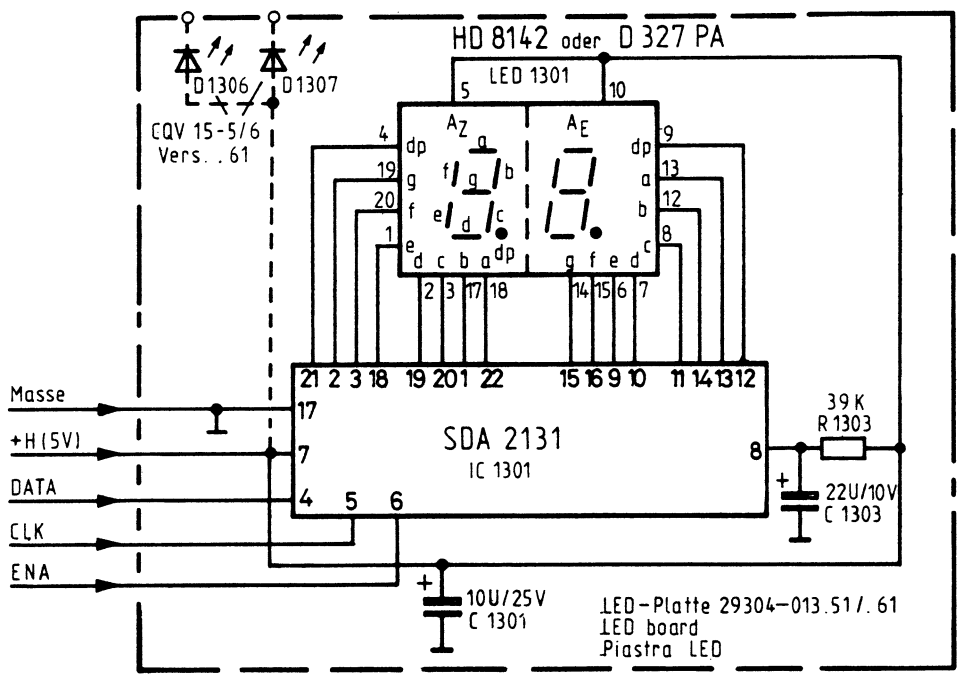
B/4

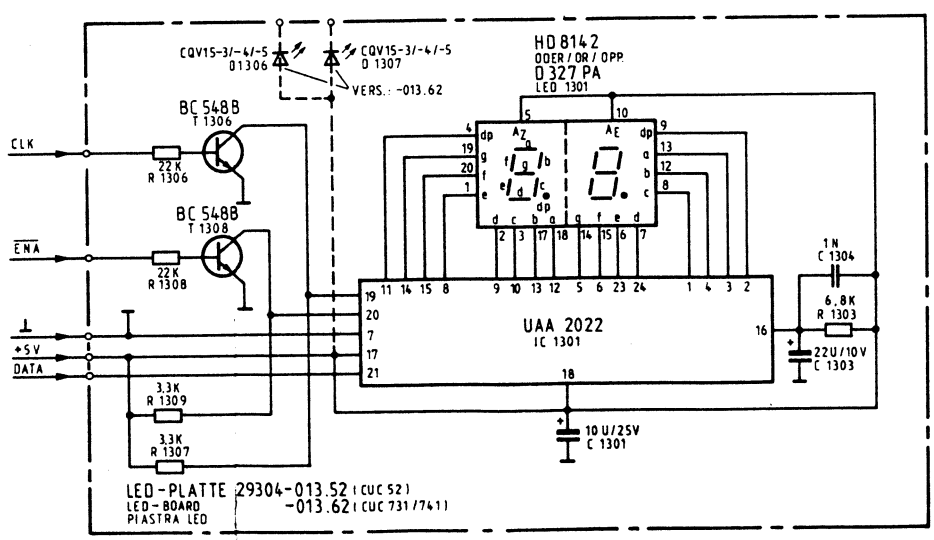
C/4

ALTERATION / CON RISERVA DI MODIFICHE

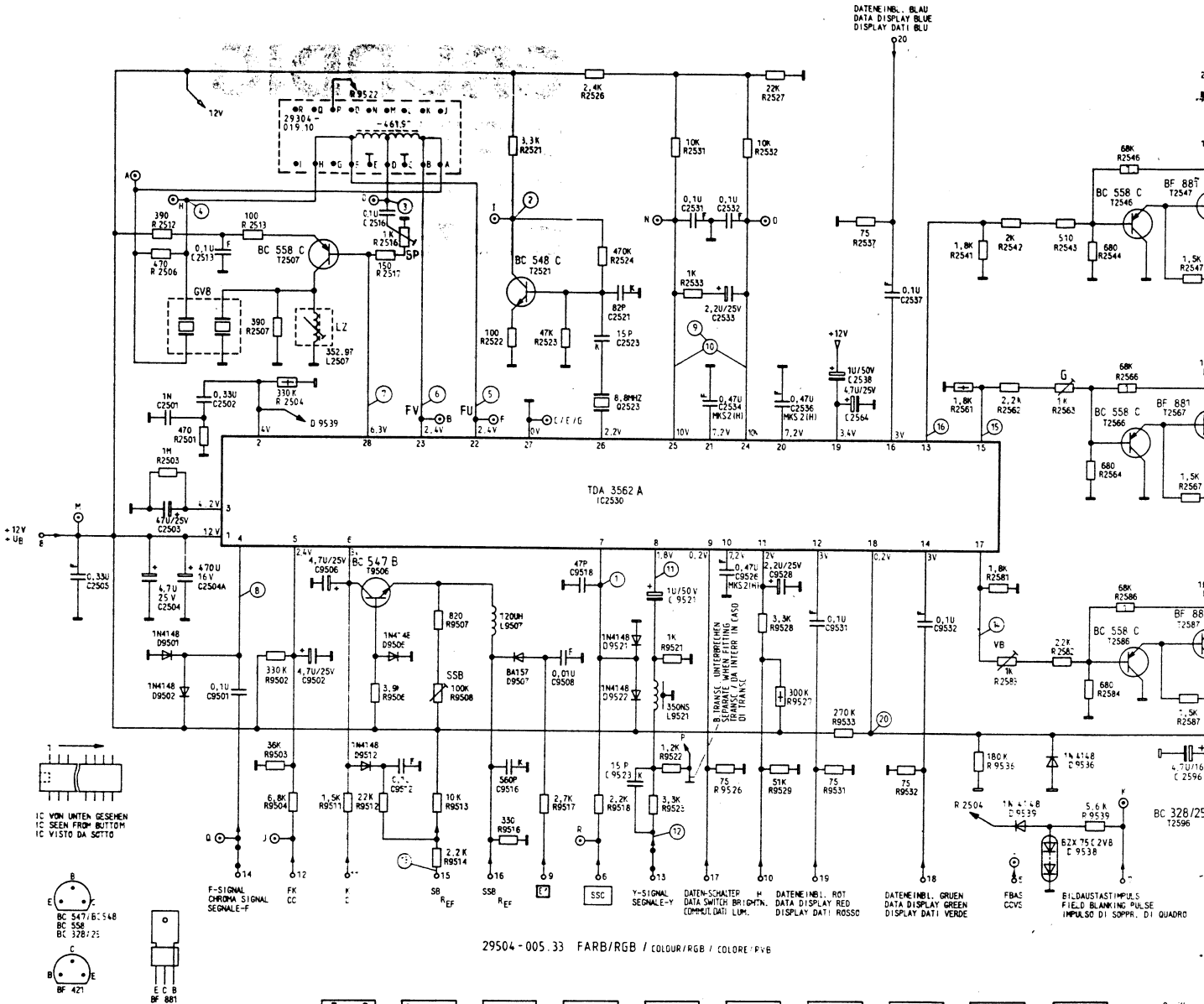




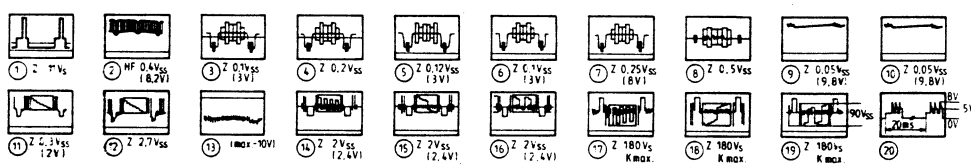




Kein Anpassungsabgleich bei Austausch der Steckkarte notwendig
When replacing the plug-in board, no alignment is necessary
No è necessaria nessuna taratura di adattamento dopo la sostituzione di una scheda ad innesto

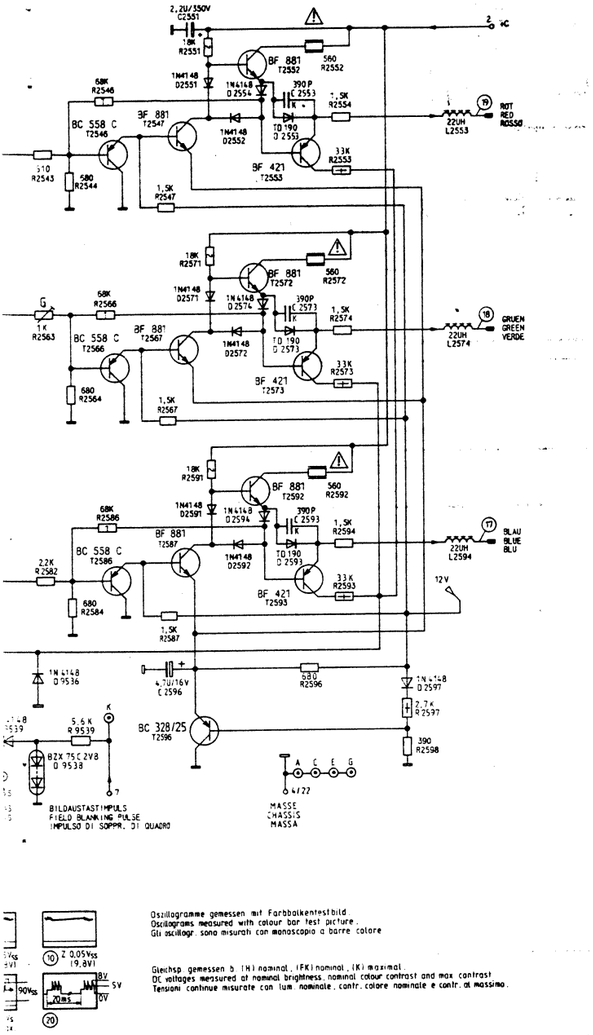


Anpassungsabgleich bei Austausch der Steckkarte
Matching alignment necessary when replacing the plug-in board
Taratura di adattamento dopo la sostituzione di una scheda ad innesto



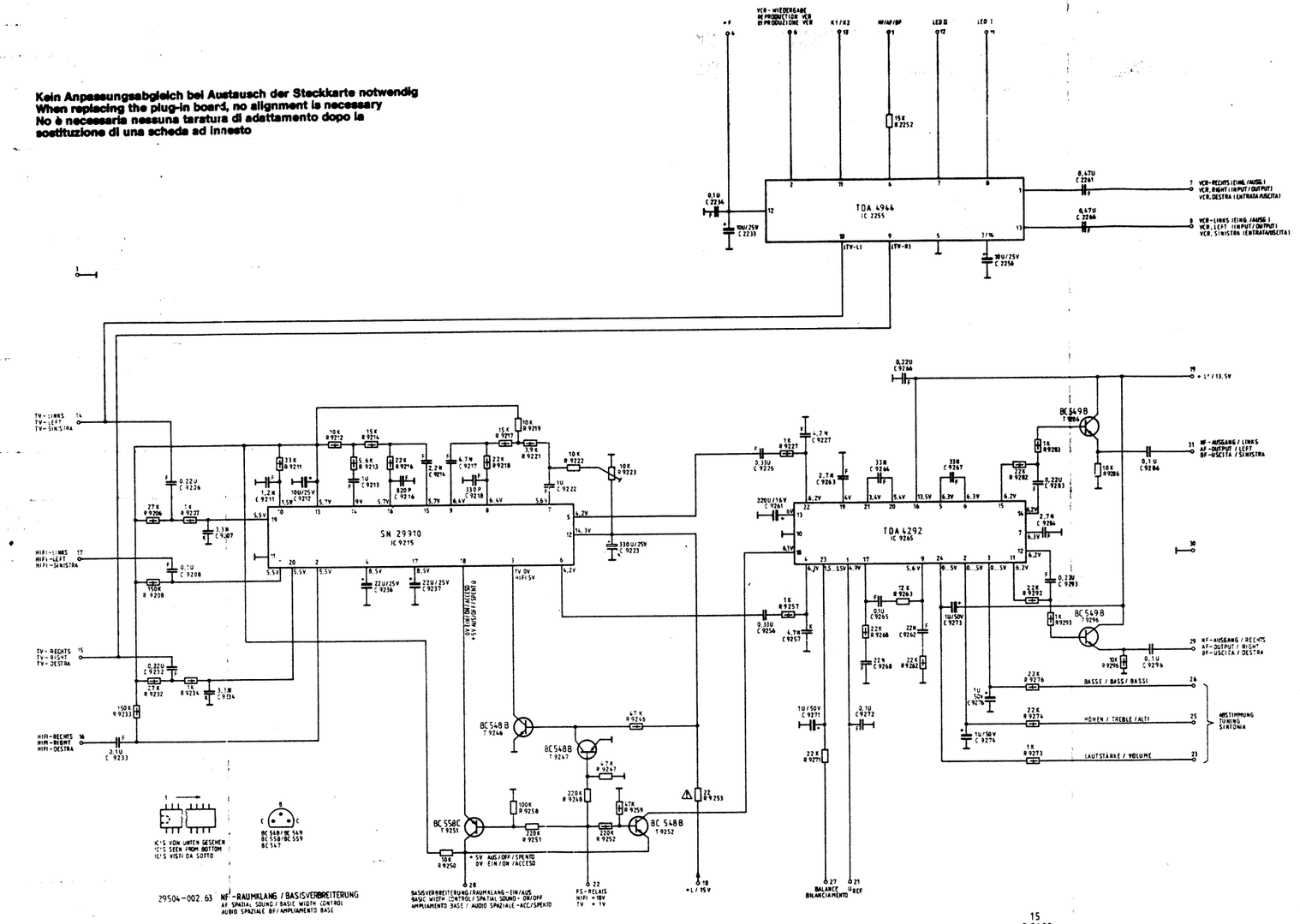
1) Weißabgleich
   - FuBK-Testbild einspeisen
   - ◑ min, ☼ nom, ◑ max einstellen
   - Regler V_R und V_B so einstellen, daß keine Verfärbungen in den Grauwerten sichtbar sind.
2) Sperrpunktabgleich
   Eine manuelle Einstellung ist nicht möglich, da die Steckkarte eine automatische Dunkelstromregelung besitzt.
   Kontrolle des Sperrpunkts (Oszilloskop erforderlich).
   - FuBK-Testbild einspeisen
   - Weißabgleich kontrollieren
   - ◑ min, ☼ nom, ◑ min einstellen
   - Tastkopf an den Kollektoren der Transistoren T 2547, T 2567, T 2587 anhängen und die Schwarzwerte der 8stufigen Grautreppe notieren.
   - Tastkopf an den Kollektor desjenigen Transistors einhängen, dessen Schwarzwert den höchsten Wert hat und mit G2-Regler auf 165 V einstellen.
     Richtwerte für die G2-Spannung:
   - bei Geräten ≦ 20″: ca. 550 V
   - bei Geräten > 20″: ca. 650 V
3) Einstellungen im Farbkanal
   - FuBK-Testbild einspeisen
   - ◑ nom, ☼ nom, ◑ nom einstellen
   - Am IC TDA 3562 A Pin 1 mit Pin 5 und Pin 24 mit Pin 25 kurzschließen.
   - Mit Trimmer 2523 die durchlaufenden Farbbalken zum Stehen bringen, Kurzschlußbrücken entfernen.
   - Tastkopf am Pin 17 des IC TDA 3562 A einhängen.
     Mit Regler BP und Spule LZ die Doppelbilder des -(B-y)-Signals zur Deckung bringen.

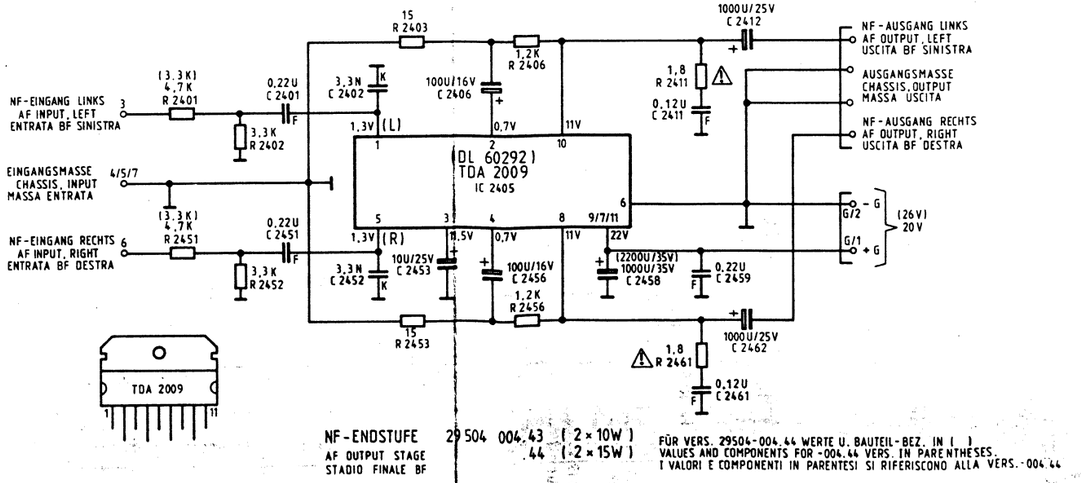
1) White level adjustment
   - Inject colour bar test pattern
   - Set ◑ to minimum, nominal ☼, ◑ to maximum
   - Adjust V_R and V_B controls so that no colouration is visi
2) Cut-off point adjustment
   A manual adjustment is not possible as the plug-in circuit matic dark current control.
   Checking the cut-off point (oscilloscope required).
   - Inject colour bar test pattern
   - Check white level adjustment
   - Set ◑ to minimum, nominal ☼, ◑ to minimum.
   - Attach probe to the collectors of the transistors T 254 note of the black levels of the 8-stage grey staircase
   - Attach probe to the collector of the transistor which h adjust to 165 V with G2 control.
     Standard values for the G2 voltage:
   - for sets ≦ 20″: approx. 550 V
   - for sets > 20″: approx. 650 V
3) Colour oscillator and PAL adjustments
   - Inject colour bar test pattern
   - Adjust to ◑, ☼, ◑ suit view conditions.
   - On the IC TDA 3562 A, short circuit pin 1 with pin 5 an
   - With trimmer 2523 adjust the until colours are correct. circuits.
   - Attach probe to pin 17 of the IC TDA 3562 A.
   - With control BP and coil LZ, adjust the double images



Oszillogramme gemessen mit Farbbalkentestbild.
Oscillograms measured with colour bar test picture.
Gli oscillogr. sono misurati con monoscopio a barre colore
Gleichsp. gemessen b. (N) nominal., (K) maximal.
DC voltages measured at nominal brightness, nominal colour contrast and max. contrast.
Tensioni continue misurate con lum. nominale, contr. colore nominale e contr. al massimo.

Kein Anpassungsabgleich bei Austausch der Steckkarte notwendig
When replacing the plug-in board, no alignment is necessary
No è necessaria nessuna taratura di adattamento dopo la sostituzione di una scheda ad innesto


TDA 4946
IC 2255
SW 29910
IC 9215
TDA 4292
IC 9265
TDA 2009
IC 2405
BC548B
BC558C
BC548/BC549
BC547
TV-LINKS / TV-LEFT / TV-SINISTRA
TV-RECHTS / TV-RIGHT / TV-DESTRA
HIFI-LINKS / HIFI-LEFT / HIFI-SINISTRA
HIFI-RECHTS / HIFI-RIGHT / HIFI-DESTRA
VCR-RECHTS (EING./AUSG.) / VCR, RIGHT (INPUT/OUTPUT) / VCR, DESTRA (ENTRATA/USCITA)
VCR-LINKS (EING./AUSG.) / VCR, LEFT (INPUT/OUTPUT) / VCR, SINISTRA (ENTRATA/USCITA)
HF-AUSGANG / LINKS / AF-OUTPUT / LEFT / BF-USCITA / SINISTRA
HF-AUSGANG / RECHTS / AF-OUTPUT / RIGHT / BF-USCITA / DESTRA
BASSE / BASS / BASSI
HÖHEN / TREBLE / ALTI
LAUTSTÄRKE / VOLUME
ABSTIMMUNG / TUNING / SINTONIA
BASSVERBREITERUNG/RAUMKLANG-EIN/AUS / BASIC WIDTH CONTROL/SPATIAL SOUND-ON/OFF / AMPLIAMENTO BASE / AUDIO SPAZIALE-ACC/SPENTO
RS-RELAIS
BALANCE / BILANCIAMENTO
IC-S VON UNTEN GESEHEN / IC'S SEEN FROM BOTTOM / IC'S VISTI DA SOTTO
29504-002.63 NF-RAUMKLANG / BASISVERBREITERUNG / AF SPATIAL SOUND / BASIC WIDTH CONTROL / AUDIO SPAZIALE BF / AMPLIAMENTO BASE


NF-EINGANG LINKS / AF INPUT, LEFT / ENTRATA BF SINISTRA
NF-EINGANG RECHTS / AF INPUT, RIGHT / ENTRATA BF DESTRA
EINGANGSMASSE / CHASSIS, INPUT / MASSA ENTRATA
NF-AUSGANG LINKS / AF OUTPUT, LEFT / USCITA BF SINISTRA
AUSGANGSMASSE / CHASSIS, OUTPUT / MASSA USCITA
NF-AUSGANG RECHTS / AF OUTPUT, RIGHT / USCITA BF DESTRA
(DL 60292) TDA 2009 IC 2405
TDA 2009
NF-ENDSTUFE / AF OUTPUT STAGE / STADIO FINALE BF
29 504 004.43 (2 × 10W)
.44 (2 × 15W)
FÜR VERS. 29504-004.44 WERTE U. BAUTEIL-BEZ. IN ( )
VALUES AND COMPONENTS FOR -004.44 VERS. IN PARENTHESES.
I VALORI E COMPONENTI IN PARENTESI SI RIFERISCONO ALLA VERS.-004.44

NF-Endstufe (2×30 W) 29504-004.33
AF Output stage
Stadio finale BF

Kein Anpassungsabgleich bei Austausch der Steckkarte notwendig
When replacing the plug-in board, no alignment is necessary
No è necessaria nessuna taratura di adattamento dopo la sostituzione di una scheda ad innesto

, ◑ to maximum
that no colouration is visible in the grey values

sible as the plug-in circuit board is provided with an auto-

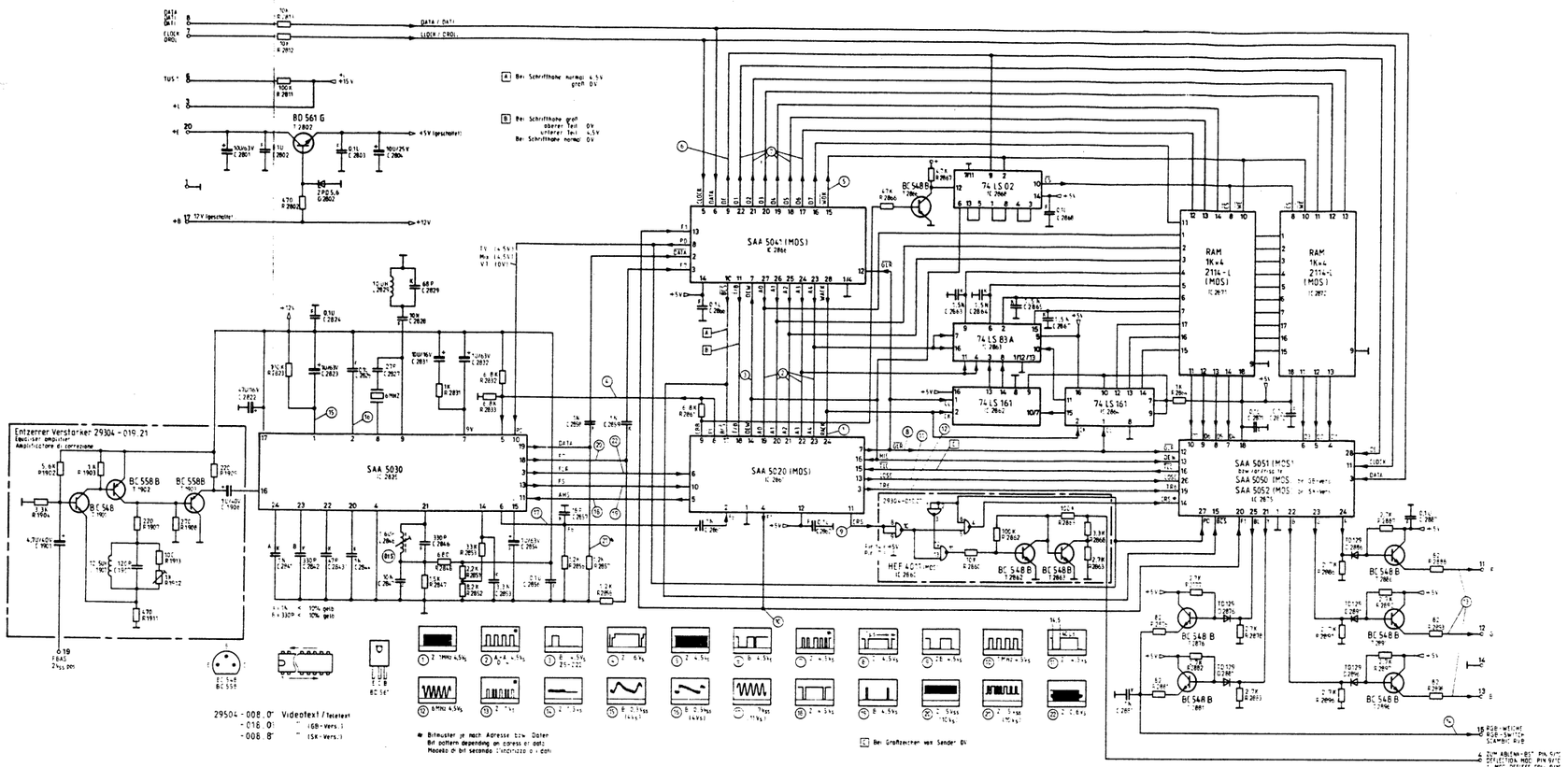
illoscope required).

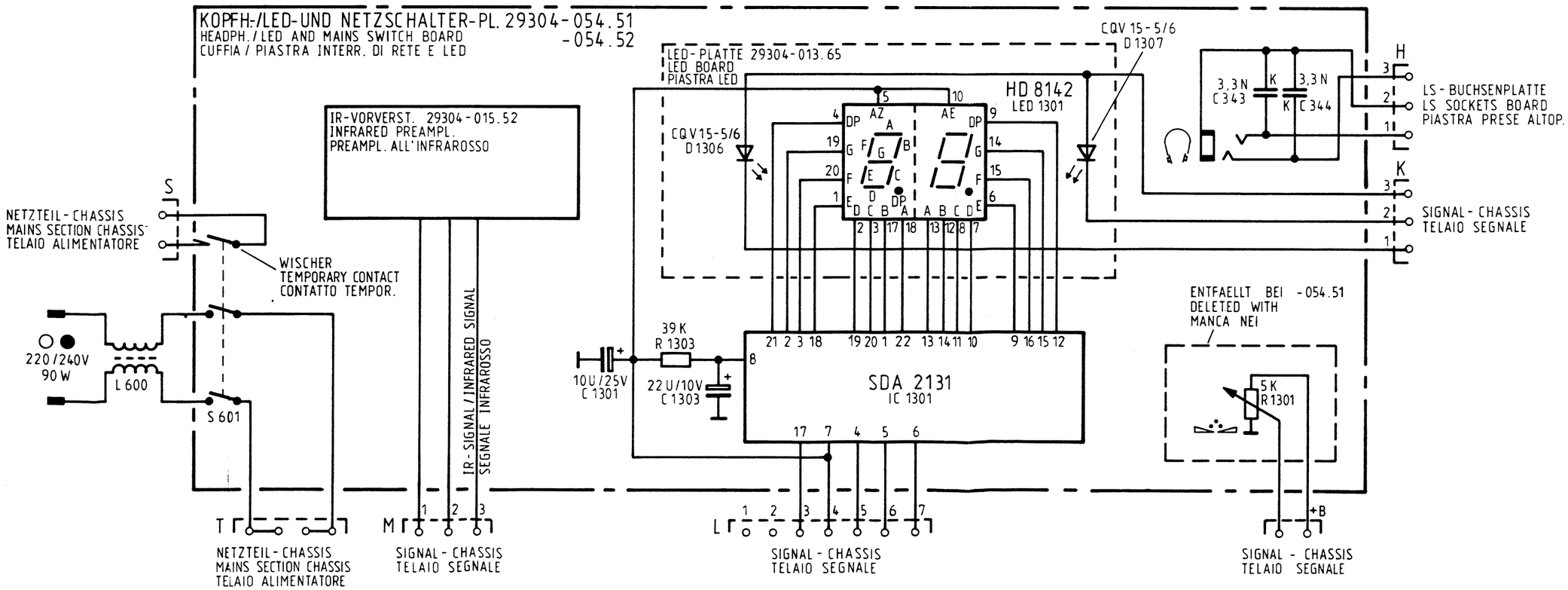
, ◑ to minimum.
s of the transistors T 2547, T 2567, T 2587 and make a
e 8-stage grey staircase
of the transistor which has the highest black level and
ol.
oltage:
V
V
stments

conditions.
t circuit pin 1 with pin 5 and pin 24 with 25.
e until colours are correct. Remove short

IC TDA 3562 A.
adjust the double images of the -(B-Y) signal to coincide.

1) Taratura del bianco
   - Applicare un monoscopio FuBK
   - Regolare ◑ al minimo, ☼ sul valore nominale ed ◑ al massimo.
   - Con i regolatori V_R e V_B eliminare eventuali macchie di colore visibili su tutta la scala dei grigi.
2) Taratura del punto di blocco
   Una regolazione manuale non è possibile, poiché questa scheda ad innesto incorpora una regolazione automatica della corrente d'oscurità.
   Controllo del punto di blocco (è necessario un oscilloscopio):
   - Applicare un monoscopio FuBK.
   - Controllare la taratura del bianco.
   - Regolare ◑ al minimo, ☼ sul valore nominale ed ◑ al minimo.
   - Collegare la sonda dell'oscilloscopio ai collettori dei transistori T 2547, T 2567 e T 2587 ed annotare i valori del nero della scala dei grigi.
   - Collegare la sonda dell'oscilloscopio al collettore del transistore che ha il maggior valore del nero e regolarlo su 165 V con il regolatore G2.
     Valori orientativi per la tensione G2:
   - per apparecchi ≦ 20": ca. 550 V
   - per apparecchi > 20": ca. 650 V
3) Regolazioni dell'oscillatore colore e PAL
   - Applicare un monoscopio FuBK.
   - Regolare ◑, ☼ ed ◑ sul valore nominale.
   - Cortocircuitare i terminali 1 e 5 ed i terminali 24 e 25 dell'IC TDA 3562 A.
   - Fermare le barre colorate scorrevoli con il trimmer 2523 e togliere i cortocircuiti.
   - Collegare la sonda dell'oscilloscopio al terminale 17 dell'IC TDA 3562 A.
     Con il regolatore BP e la bobina LZ portare a copertura le immagini doppie del segnale -(B-y).





Behelfsjustierung der Datentakt-Schwingkreisspule

Die Datentakt-Schwingkreisspule (L 2846) bildet zusammen mit C 2846 einen Parallelschwingkreis mit hoher Güte; dieser Schwingkreis wird zur Filterung schmaler Impulse, die aus den Flanken des Videotext-Datensignals gewonnen werden, verwendet. Mit Hilfe des internen Taktgenerators der Schaltung SAA 5030 wird ein zu den Videotext-Daten synchroner Datentakt erzeugt.

Zur Justierung der Datentakt-Schwingkreisspule ist zunächst ein Fernsehsender mit Videotext-Datensignalen einzustellen. Es soll nach Möglichkeit ein Signal sein, das gut empfangen wird und keine Reflexionen (Echos) aufweist.

Die Seite 199 (Clock-Cracker) wird angewählt und das HF-Signal soweit abgeschwächt bis die Fehlerschwelle erreicht ist, d.h. bis die ersten falschen Zeichen auf dem Schirm erscheinen. Die Induktivität der Datentakt-Schwingkreisspule L 2846 wird nun solange verstellt bis ein Fehlerminimum oder Fehlerfreiheit erreicht ist. Bei Fehlerfreiheit wird nun nochmals bis zur Fehlerschwelle abgeschwächt und auf Fehlerminimum abgeglichen. Dieser Vorgang wird solange wiederholt bis sich ein eindeutiges Fehlerminimum eingestellt hat.

Während des Abgleiches ist es notwendig, die Seite 199 ständig neu anzuwählen, da nur so die Seite neu eingelesen wird und eine Beurteilung der Fehlerschwelle möglich ist.

Der Einsteller R 1912 steht bei Auslieferung auf Linksanschlag (kleinste Höhenanhebung, ca. 2 dB). Treten trotz einwandfreiem Antennensignal und korrekt abgeglichener Spule L 2846 noch Zeichenfehler auf, R 1912 langsam nach rechts verstellen, bis Fehler verschwinden. Nicht weiterdrehen, da Fehlerhäufigkeit wieder zunehmen kann.

Coarse adjustmen

The data clock-puls
forms a high-Q pa
filtering narrow puls
teletext data signa
5030 is used to g
chronous with the

To adjust the data c
be tuned to a transn
the reception of th
exhibit any reflectio

Page 199 (Clock-Cr
ated until the erro
incorrect symbols a
data clock-pulse o
minimum error level
are absent, the atte
hold and then set fo
ted until a clear mir

Page 199 must alw
ment, as only this e
possible to evaluate

The control R 1912
when the unit is deli
If, with a perfect a
adjusted, character
wise until the faults
as error rate may in

Coarse adjustment of the Data Clock-Pulse Oscillator Coil

The data clock-pulse oscillator coil (L 2846), along with C 2846, forms a high-Q parallel tuned circuit. This circuit is used for filtering narrow pulses which are obtained from the edges of the teletext data signal. The internal clock generator in the SAA 5030 is used to generate a data clock-pulse which is synchronous with the Teletext data.

To adjust the data clock-pulse oscillator coil the set should first be tuned to a transmitter broadcasting Teletext data. If possible the reception of the signal should be good and should not exhibit any reflections (ghosts).

Page 199 (Clock-Cracker) is selected and the RF signal attenuated until the error threshold is reached, ie: until the first incorrect symbols appear on the screen. The inductance of the data clock-pulse oscillator coil L 2846 is now adjusted until minimum error level or freedom from errors is achieved. If errors are absent, the attenuation is again adjusted to the error threshold and then set for minimum error. This procedure is repeated until a clear minimum error level is achieved.

Page 199 must always be selected anew during the adjustment, as only this effects a new read-in of the page making it possible to evaluate the error level.

The control R 1912 is set in the fully anticlockwise position when the unit is delivered (smallest treble boost: approx. 2 dB). If, with a perfect aerial signal and the coil L 2846 correctly adjusted, character faults still occur, turn R 1912 slowly clockwise until the faults disappear. Do not turn R 1912 up any further as error rate may increase again.

Regolazione provvisoria della bobina del circuito oscillatore del clock dati

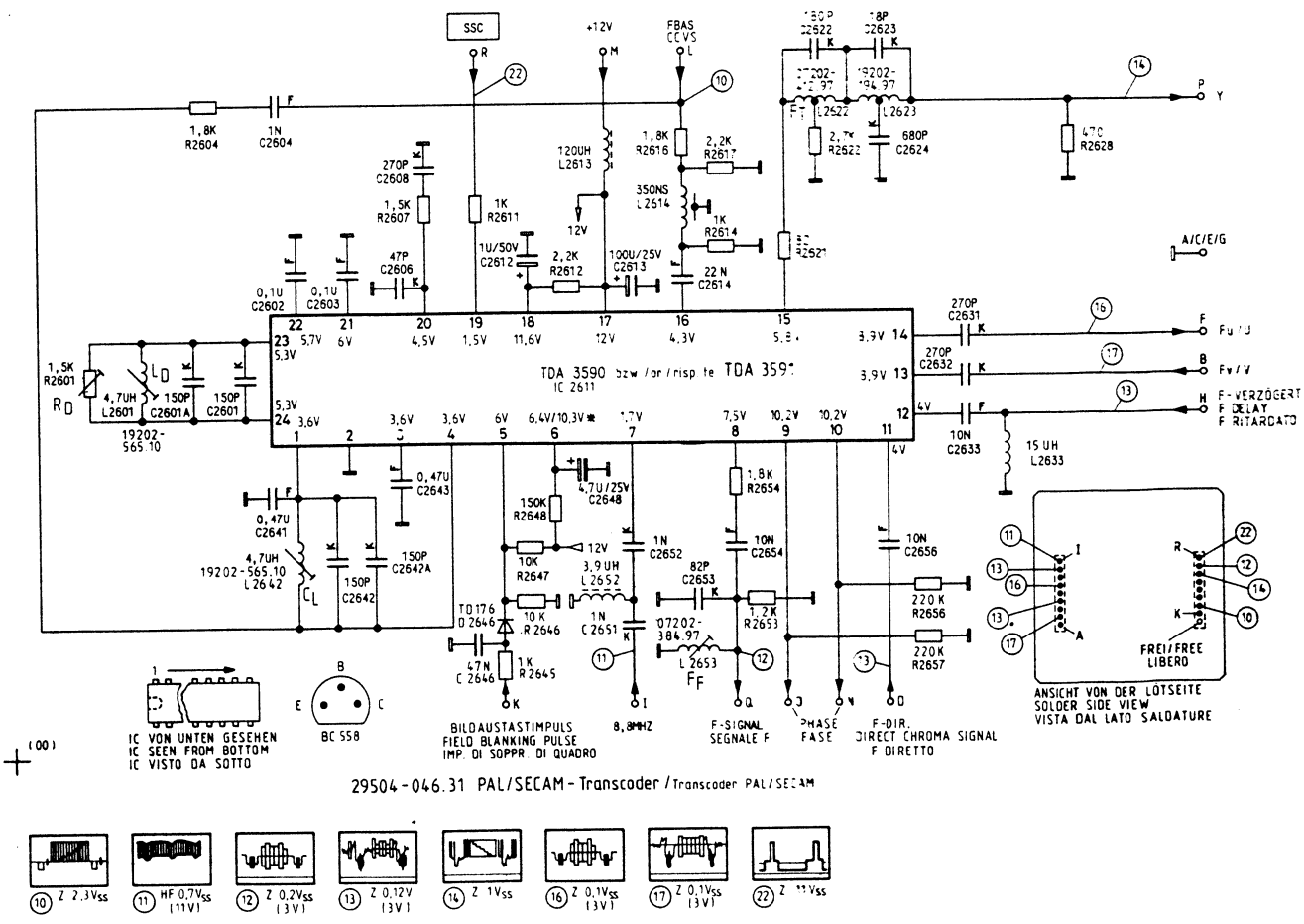
La bobina del circuito oscillatore del clock dati (L 2846) forma unitamente ad C 2846 un circuito oscillatore parallelo ad elevato Q; questo circuito oscillatore serve per «identificare» gli impulsi stretti che vengono generati dai fianchi del segnale dati del teletext. Con l'ausilio del generatore interno di cadenza del circuito SAA 5030 viene ricavato un clock dati in sincronismo con i dati del teletext.

Per la regolazione della bobina del circuito oscillatore del clock dati, sintonizzarsi su una stazione TV con segnali teletext. Deve trattarsi, a seconda delle possibilità, di un segnale forte e senza riflessioni (eco).

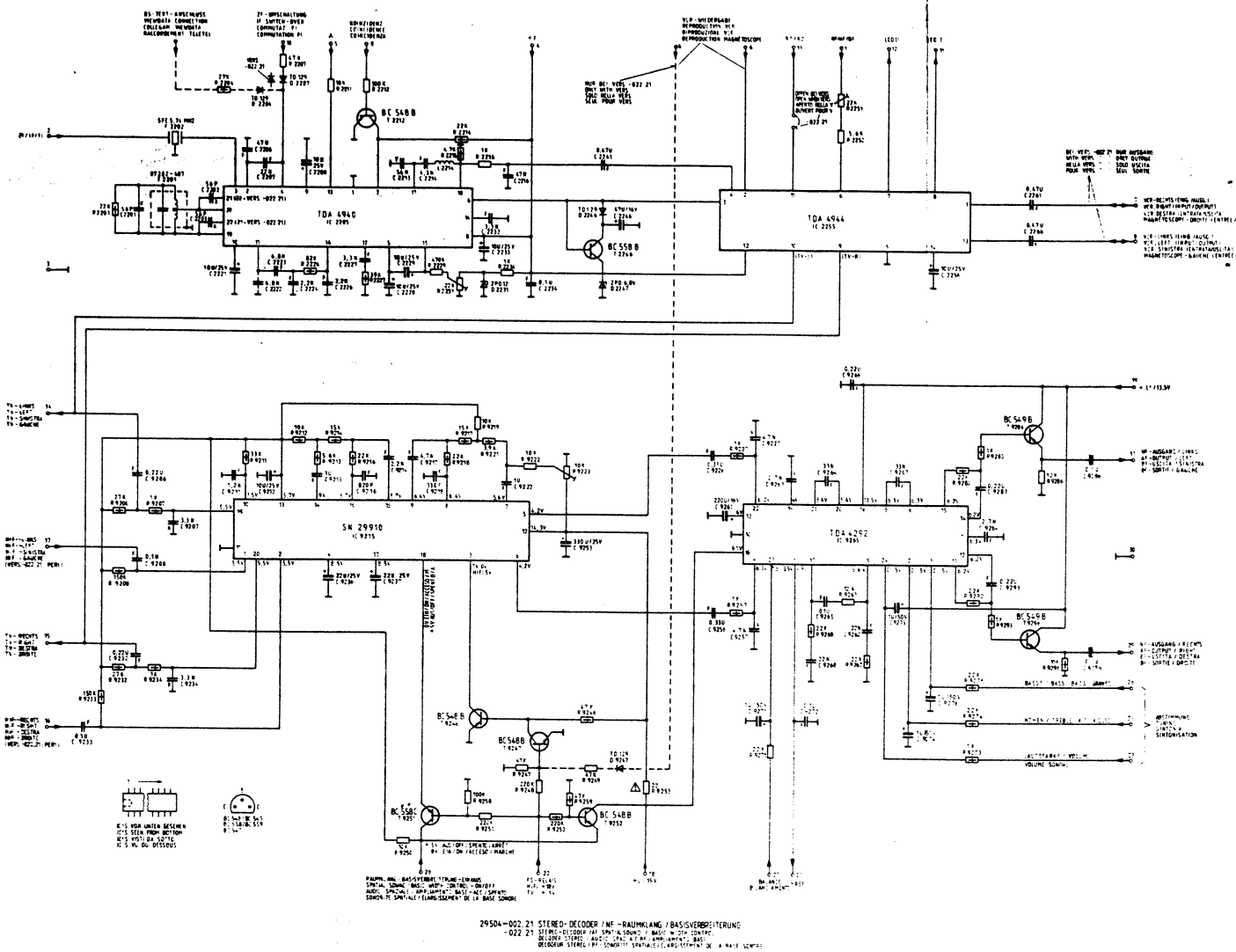
Selezionare la pagina 199 (Clock-Cracker) ed attenuare il segnale AF finchè si raggiunge la soglia degli errori, cioè fino a che sullo schermo appaiono i primi caratteri errati. L'induttanza della bobina del circuito oscillatore del clock dati L 2846 viene regolata finchè si raggiunge un minimo di errori o la mancanza completa degli stessi. In assenza completa di essi, attenuare ancora fino alla soglia degli errori e tarare nuovamente per il minimo di errori. Questo procedimento viene ripetuto fino a quando si raggiunge un minimo evidente di errori.

Durante la taratura è necessario selezionare ripetutamente la pagina 199, poiché solo così è possibile una nuova immissione della pagina ed una valutazione della soglia degli errori.

Il regolatore R 1912 viene fornito col cursore girato completamente all'estrema sinistra (minima esaltazione delle alte frequenze, ca. 2 dB). Se si manifestano errori di carattere, nonostante un perfetto segnale d'antenna ed una taratura corretta della bobina L 2846, girare lentamente il cursore di R 1912 verso destra fino ad eliminare gli errori. Non girarlo oltre poiché può riaumentare la presenza degli errori.

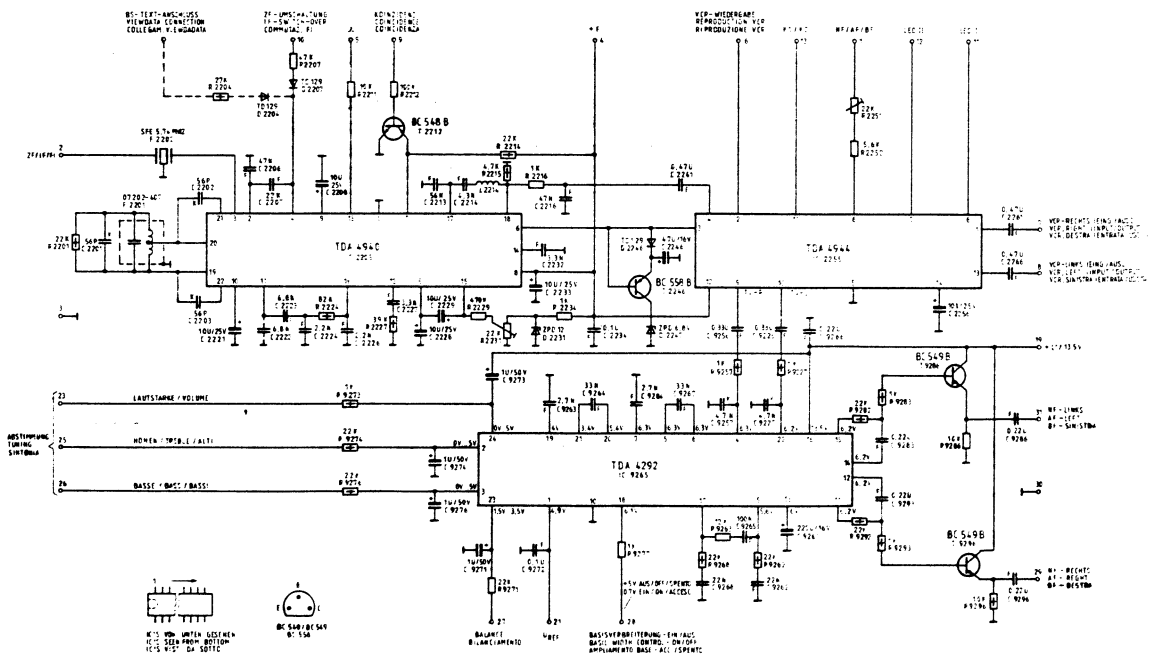


29504-046.31 PAL/SECAM-Transcoder / Transcoder PAL/SECAM



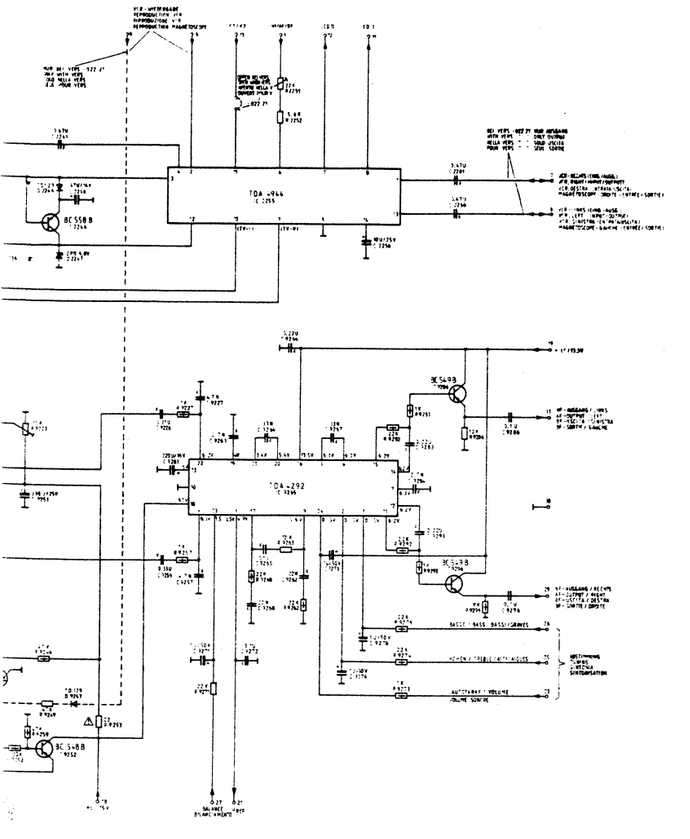
29504-002.21 STEREO-DECODER / NF-RAUMKLANG / BASISVERBEITERUNG
-022 21 STEREO-DECODER AF SPATIAL SOUND / BASS WIDTH CONTROL
DECODEUR STEREO / AUDIO SPATIAL / AMPLIFICATEUR BASS
DECODEUR STEREO / BF SONORITE SPATIALE / AMPLIFICATEUR DE LA BASE SONORE

Kein Anpassungsabgleich bei Austausch der Steckkarte notwendig
When replacing the plug-in board, no alignment is necessary
No è necessaria nessuna taratura di adattamento dopo la sostituzione di una scheda ad innesto

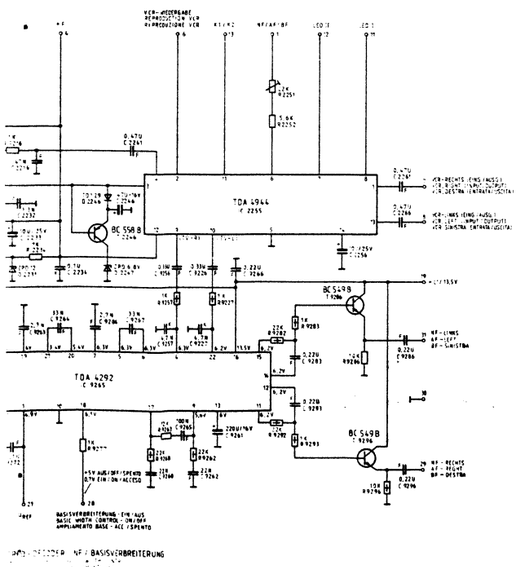


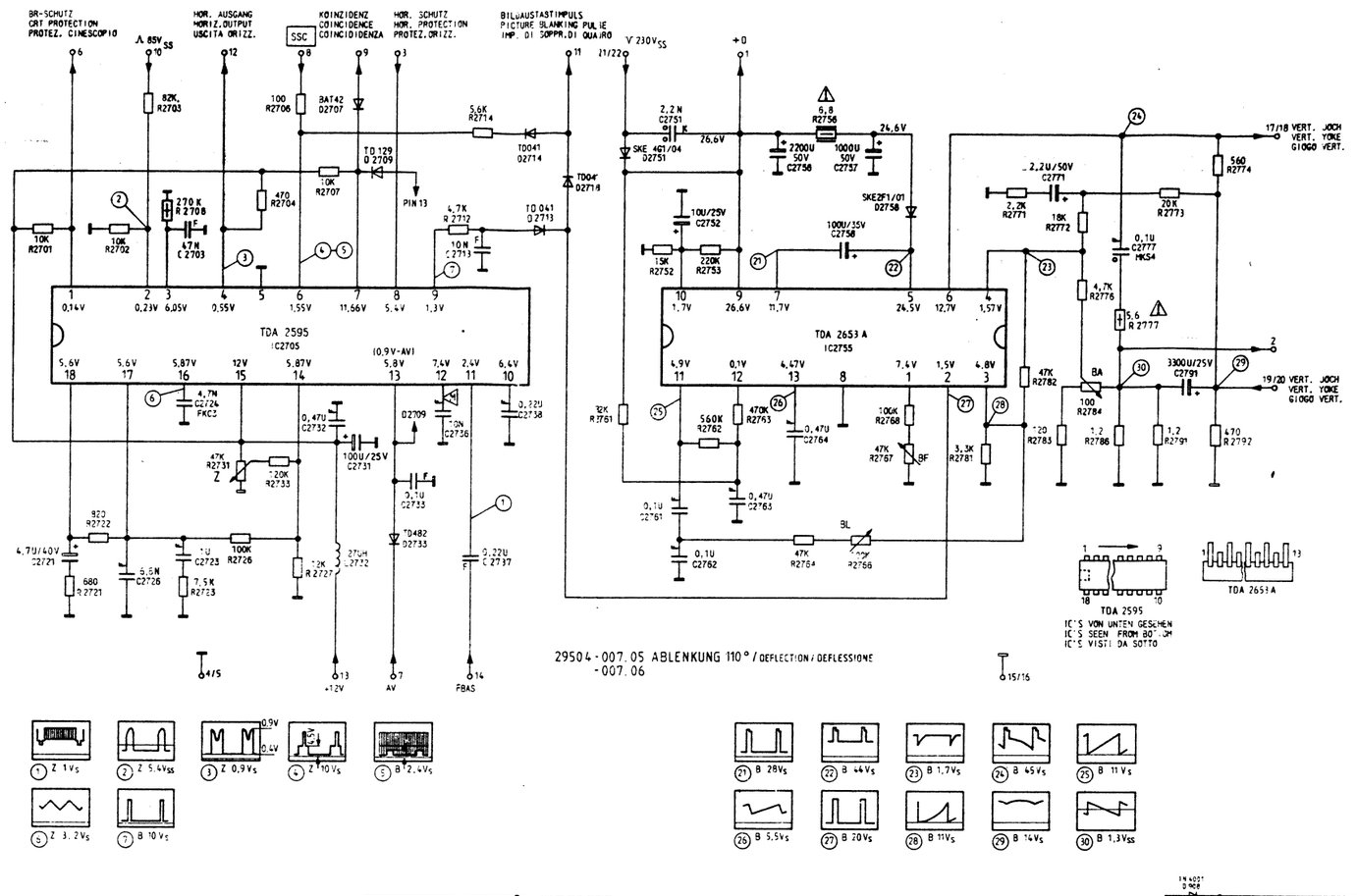
29504-002.22 STEREO-DECODER / NF / BASISVERBREITERUNG

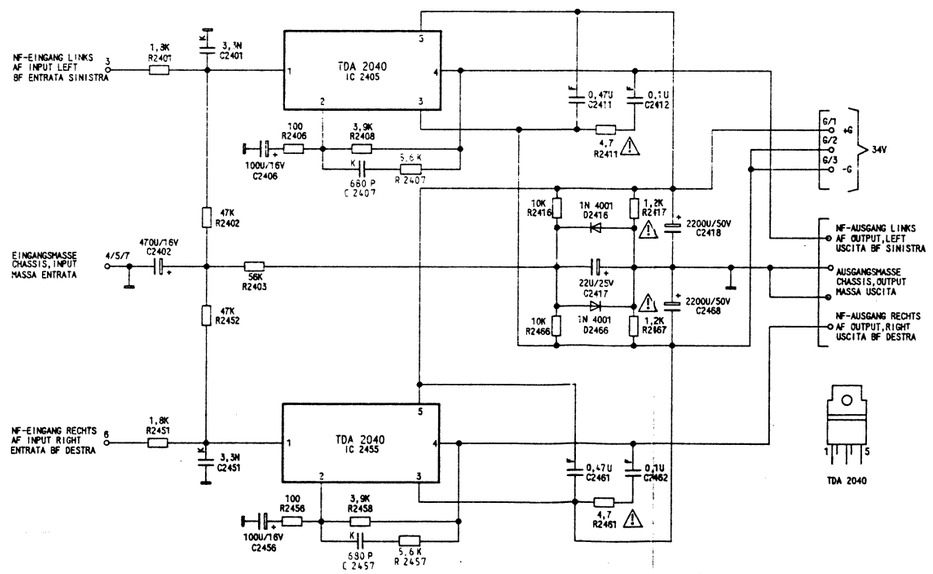
Kein Anpassungsabgleich bei Austausch der Steckkarte notwendig
When replacing the plug-in board, no alignment is necessary
No è necessaria nessuna taratura di adattamento dopo la sostituzione di una scheda ad innesto

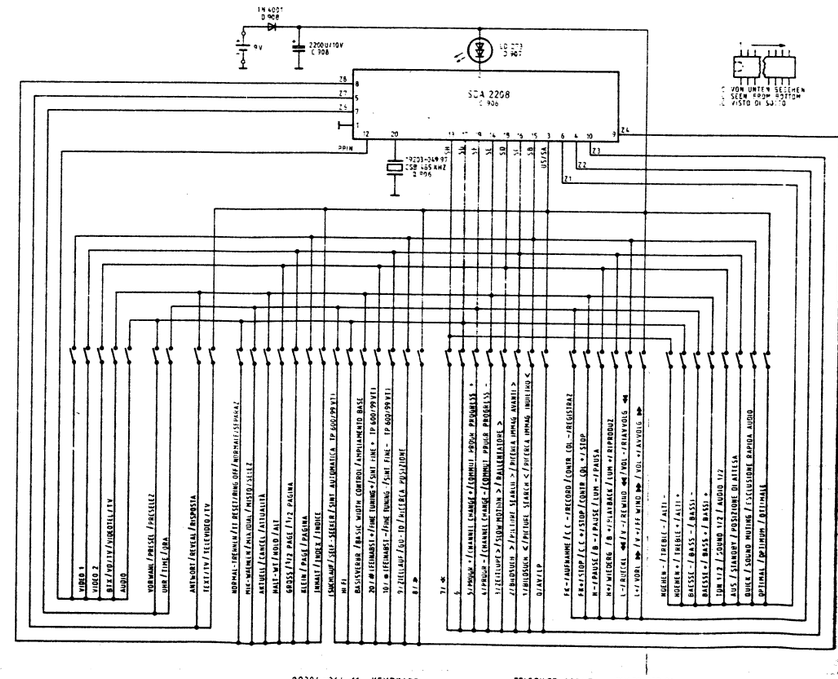


Kein Anpassungsabgleich bei Austausch der Steckkarte notwendig
When replacing the plug-in board, no alignment is necessary
No è necessaria nessuna taratura di adattamento dopo la sostituzione di una scheda ad innesto









TELEPILOT 600 VT 29622-039.01
TELEPILOT 600/99 VT 29622-039.43

Anpassungsabgleich bei Austausch der Steckkarte
Matching alignment necessary when replacing the plug-in board
Taratura di adattamento dopo la sostituzione di una scheda ad innesto

MP kurzschließen.
Zeilenoszillator auf Sollfrequenz einstellen. Kurzschluß entfernen.

Short circuit test point marked MP. Adjust control marked Z for stationary picture (as near as possible). Remove short circuit.

Cortocircuitare i punti MP.
Regolare l'oscillatore di riga sulla frequenza nominale. Allontanare il cortocircuita.

Bildhöhe so einstellen, daß der Testbildkreis rund ist.

Adjust the field height so that the test card circle is round.

La regolazione dell'altezza del quadro viene effettuata in modo da rendere rotondo il cerchio del monoscopio.

Schirmbild auf gleichmäßige Linearität bringen.

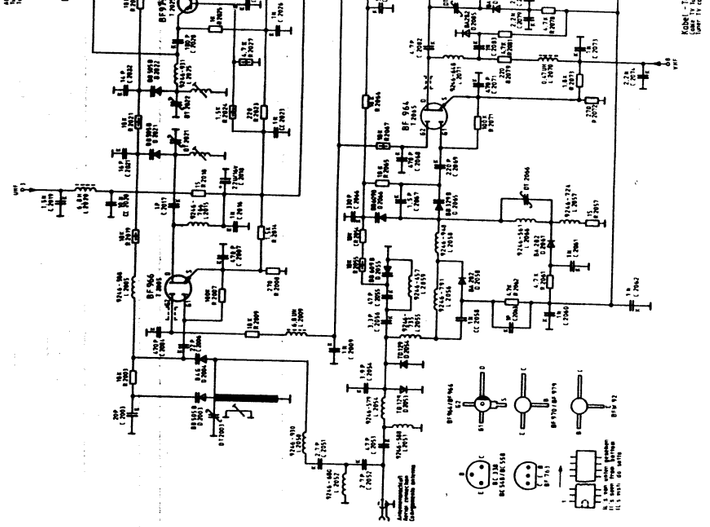
Adjust for overall field linearity.

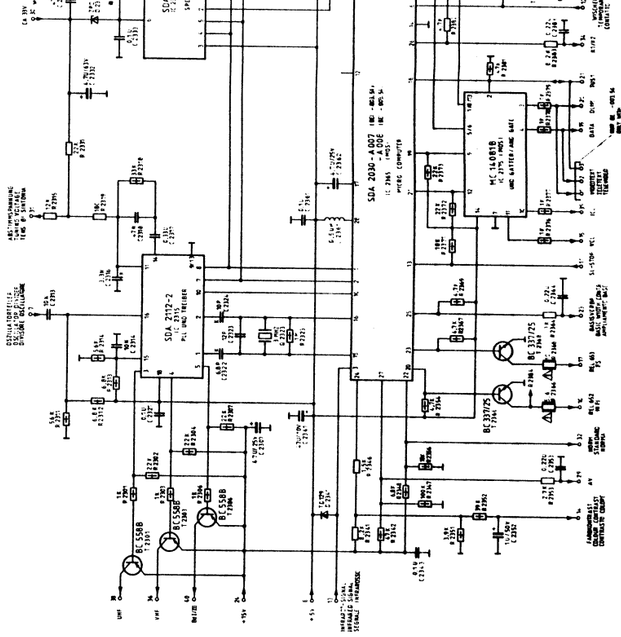
Portare l'immagine in linearità simmetlla.

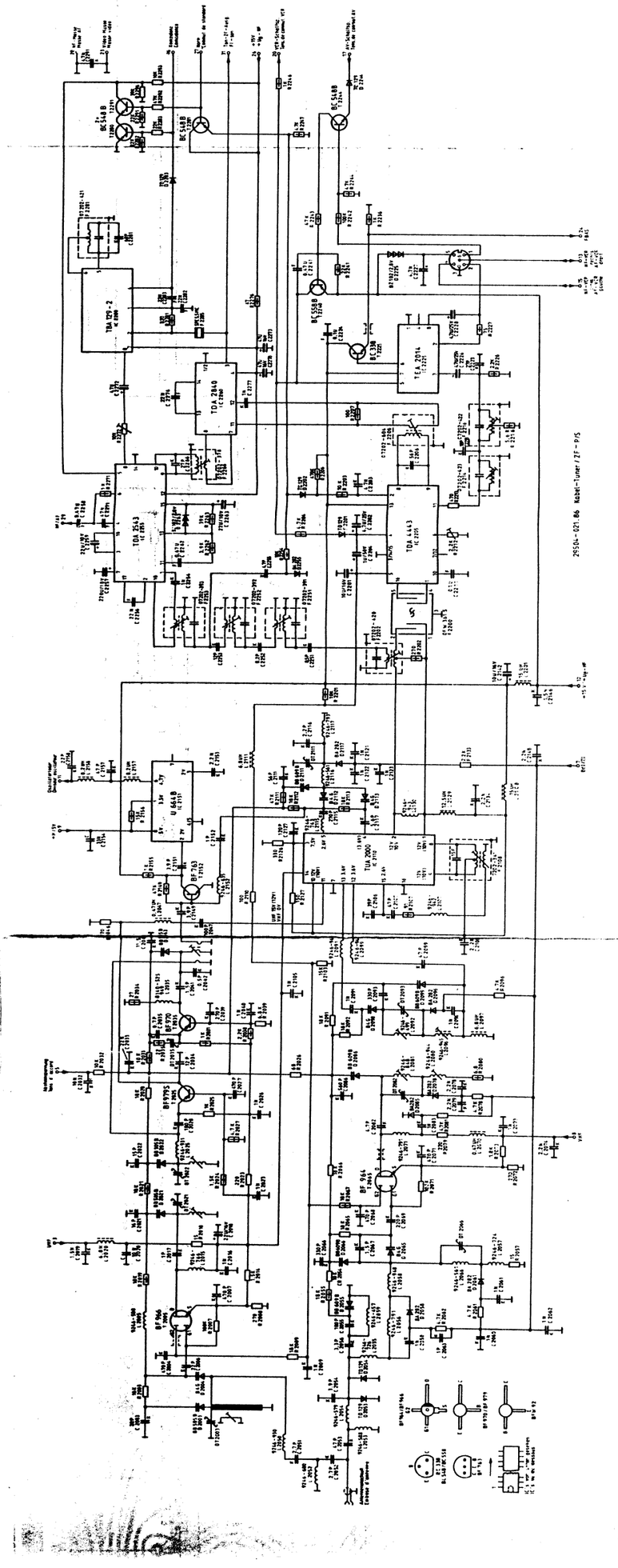
Regler BF verdrehen, bis das Bild nach unten durchzulaufen beginnt, dann Regler BF so einstellen, daß das Bild sichtbar nach oben einrastet.

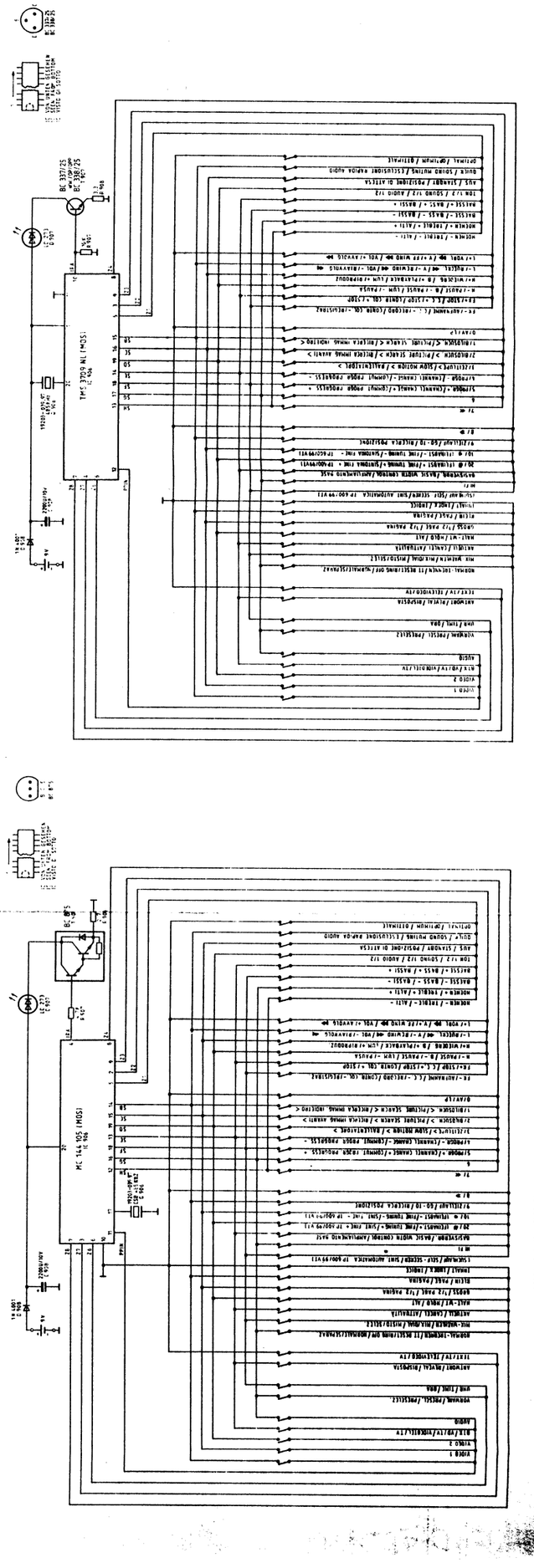
Adjust control BF so that the picture starts to roll downwards and then adjust for a stationary picture.

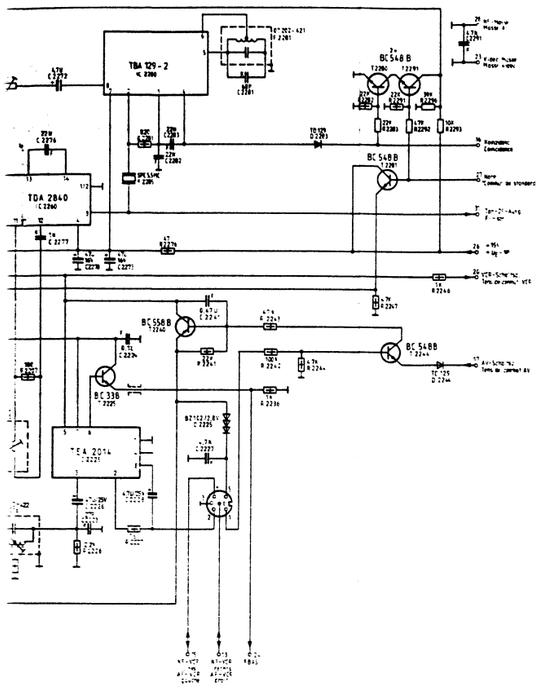
Regolare il regolatore BF finché il quadro comincia a spostarsi verso il basso e poi regolarlo fino a che il quadro effettua la sua ultima variazione da sotto a sopra.

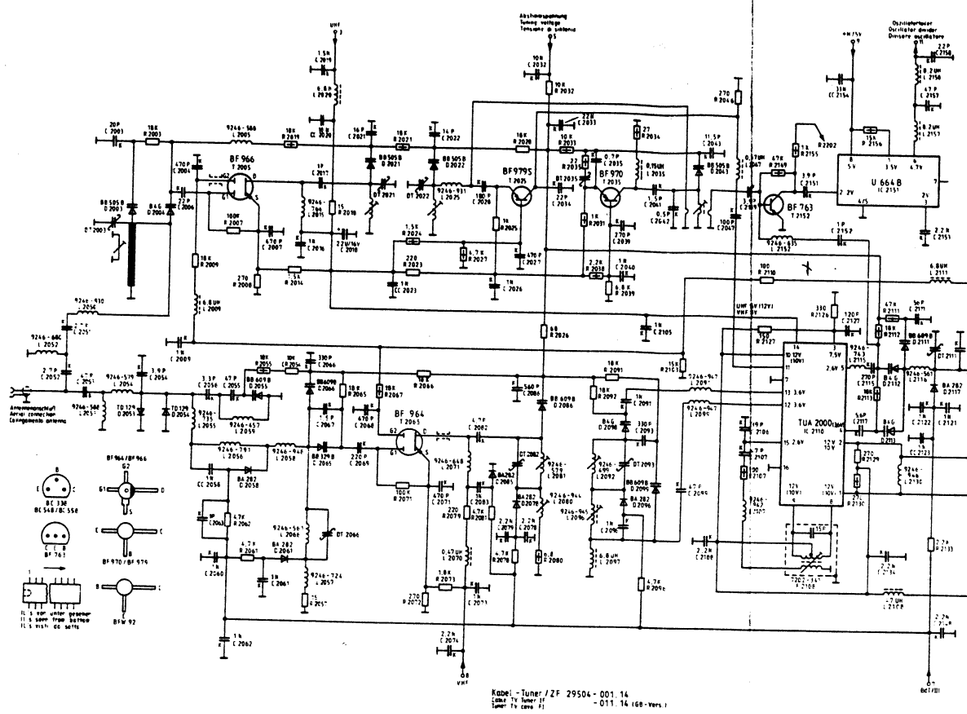


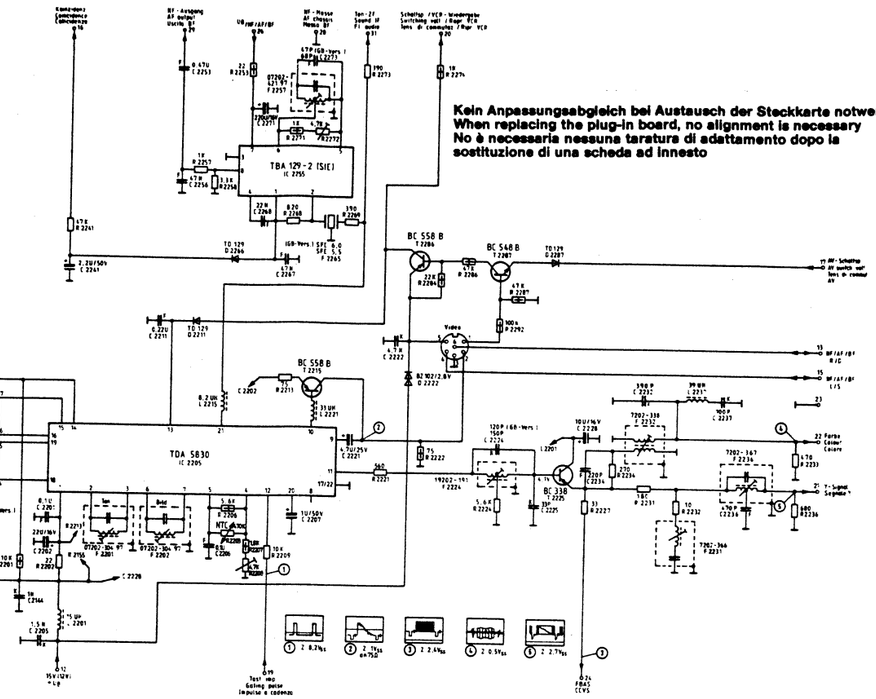












Kein Anpassungsabgleich bei Austausch der Steckkarte notwendig
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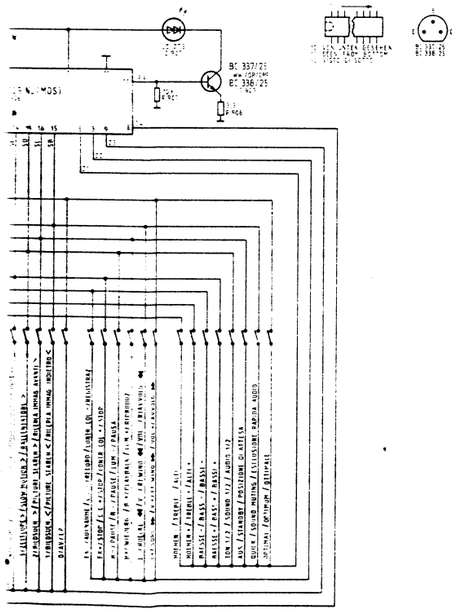
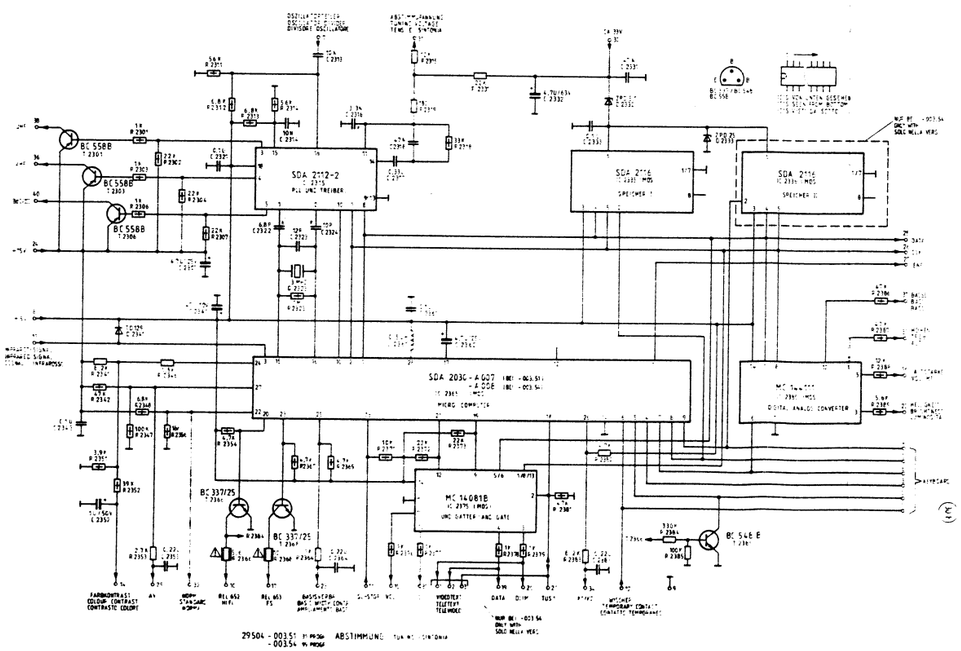
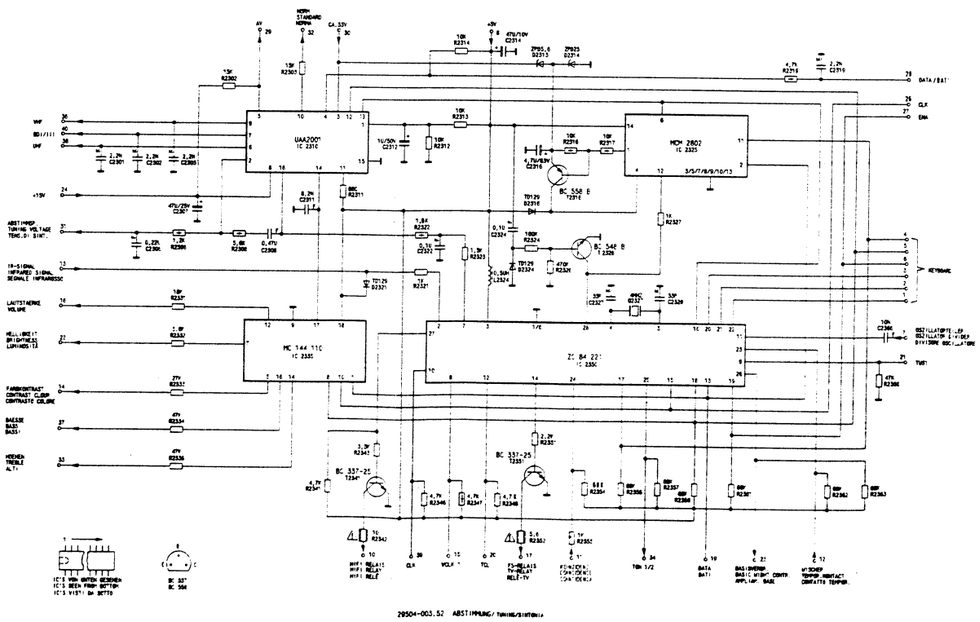


TELEPILOT 600 VT 29x321-035 67
TELEPILOT 600/900 VT 29x321-035 68



29504-003.51 ABSTIMMUNG
- 003.54



29504-003.52 ABSTIMMUNG

Kein Anpassungsabgleich bei Austausch der Steckkarte notwendig
When replacing the plug-in board, no alignment is necessary
No è necessaria nessuna taratura di adattamento dopo la sostituzione di una scheda ad innesto

NETZTEIL-CHASSIS
MAINS SECTION CHASSIS
TELAIO ALIMENTATORE

SL TL

VERS. B
KOPF./LED UND NETZSCHALTERPL. 29304-054.51
HEADPH./LED AND MAINS SWITCH BOARD
CUFFIA/PIASTRA INTERR. DI RETE E LED

H 3 2 1 — LS-BUCHSENPL. / LS SOCKETS BOARD / PIASTRA PRESE ALTOP.

M 10 20 30 K 10 20 30 L 10 20 30 40 50 60 70

SIGNAL-CHASSIS
TELAIO SEGNALE

VERS. C
LED-PLATTE 29304-013.31
LED BOARD
PIASTRA LED

K 10 20 30 L 10 20 30 40 50 60 70

SIGNAL-CHASSIS
TELAIO SEGNALE

VERS. C
IR-VORVERST. 29304-015.11
INFRARED PREAMPL.
PREAMPL. ALL'INFRAROSSO

M 3 2 1 — SIGNAL-CHASSIS / TELAIO SEGNALE

VERS. C
KOPFH.-ANSCHLUSSPL. 29304-054.13
HEADPHONE SOCKET BOARD
PIASTRA PRESA CUFFIA

H 3 2 1 — LS-BUCHSENPL. / LS SOCKETS BOARD / PIASTRA PRESE ALTOP.

3.3N C343 K — 3.3N C344 K

10K R303

BALANCE BILANCIAM. 10K R302 — 10K R301

P — SIGNAL-CHASSIS / TELAIO SEGNALE

0,22W 0204 DIN
0,33W 0207 DIN
0,50W 0411 DIN
0,75W 0617 DIN
1W 0922 DIN
2W 0922 DIN

Widerstand nicht brennbar
Resistor not flammable
Resistenza non infiammabile

Drahtwiderstand
Wire resistor
Resistenza a filo

Elektrolytkondensator
Electrolytic capacitor
Condens. elettrolitico

Folienkondensator
F = Foil capacitor
Condens. a foglia

Keramikkondensator
K = Ceramic capacitor
Condens. ceramico

≧ 160V=
250 V=
400 V=
630V=
1000V=

Bei Eingriffen Schutzmaßnahmen
für MOS-Bauteile beachten!

When handling MOS-circuits,
always observe the MOS protection measures!

Adoperando componenti o circuiti MOS,
osservarne le corrispondenti misure di protezione!

31 Z 6,8Vss · 32 Z 2,3Vss · 33 Z 0,5Vss · 34 Z 2,7Vss · 35 B 20Vs · 36 (MAX-9V) · 37 Z 11Vss 4,5Vs · 38 B 2,4Vss · 39 Z 1Vs · 40 Z 230Vss · 41 B 45Vss · 42 B 14Vs · 43 Z 80Vss (CA.180Vs) · 44 Z 80Vss (CA.180Vs) · 45 Z 80Vss (CA.180V)

BEI VERS. B+C AUSSERHALB VOM CHASSIS
ON VERS. B+C OUTSIDE OF CHASSIS
NELLE VERS. B+C AL DI FUORI DEL TELAIO

HÖHEN/TREBLE/ALTI
BÄSSE/BASS/BASSI

BALANCE BILANCIAM. 10K R302 10K R303 10K R301 — P 1 2 3 — 21 27 STEREO-DECODER

ENTFALLT BEI VERS. C
DELETED ON VERS.
MANCA NELLE VERS.

IR-VORVERST. 29304-015.52
INFRARED PREAMPL.
PREAMPL. ALL'INFRAROSSO

LED-PLATTE 29304-013.61/.62
LED BOARD
PIASTRA LED

STECKER K,L,M,P,R,N ENTFALLEN BEI VERS. A
PLUGS K,L,M,P,R,N DELETED ON VERS. A
LE SPINE K,L,M,P,R,N MANCANO NELLA VERS. A

K 3 2 1 — +H — 390 R333 TON II — 390 R334 TON I

NUR BEI IT. VERS.
ONLY WITH IT. VERS.
SOLO NELLA VERS. IT.

M 10 20 30 — +L — IR-SIGNAL / INFRARED SIGNAL / SEGNALE INFRAR.

L 10 20 30 40 50 60 70 — +H — DATA CLK ENA

ZPD5,6 D331 — 180 R332 — BA 157 D333 — 47K R331 — 1U/100V C332 — 22U/10V C325 — +H — +F — +L

ANTENNE / AERIAL / ANTENNA

NF-STUMMSCHALTUNG
AF MUTING
SILENZIAMENTO BF

ENTFÄLLT BEI 2 x 15 W
DELETED WITH 2 x 15 W
MANCA NEI 2 x 15 W

BC 548C T321 — 390K R322 — R353 — TD129 D324 — 470K R321 — TD129 D323 — 0,22U C323 — 1N C324

VCR-SCHALTSP.
SWITCHING-VCR/TENS. DI COMMUTAZ. VCR

R 1 2 4 5 1 3 6 — NORM/STANDARD/NORMA (TD129 D302) — KANALWAHL / CHANNEL SELECT. / SELEZ. CANALE — SUCHLAUF / SELF-SEEKER / SINT. AUTOM. (TD129 D301) — 10 ER/10'S/DECINE — 1 ER/1'S/UNITÀ — FEINABSTIMMUNG + / FINE TUNING + / SINT. FINE + — FEINABSTIMMUNG - / FINE TUNING - / SINT. FINE - — SPEICHERTASTE / MEMORY KEY / TASTO DI MEMORIZZ.

ABSTIMMUNG 29504-003.51/.52/.53
TUNING
SINTONIA
-003.54 (IT.)

40 I/III — 38 UHF — 36 VHF — 31 ABSTIMMSP. / TUNING VOLTAGE / TENSIONE DI SINT. — 7 OSZILLATORTEILER / OSCILLATOR DIVIDER / DIVIS. OSCILLATORE

VIDEO — **KABEL-TUNER/ZF 29504-001.14**
CABLE TV TUNER IF
TUNER TV CAVO FI
-011.14 (GB)
-021.86 (P/S)

NF-VCR(L)/AF-VCR(L)/BF-VCR(S) — NF-VCR(R)/AF-VCR(R)/BF-VCR(D) — TON-ZF2/SOUND IF2/AUDIO FI 2 — NF-MASSE/AF CHASSIS/MASSA BF — +F — NF 1(L+R)/AF1(L+R)/BF1(D+S)

STEREO VERS. 29504-002.21 (CU
VERS. STEREO -002.22 (CU

RAUMKL VERS. 29504-002.63
SPATIAL SOUND VERS.
VERS. AUDIO SPAZIALE

ZPD 6,8 D513 — 8,2K R513 — 22 R339 — 1N4001 D339 — +L 13,5V — 1000U 25V C339

AV-SCHALTSP.
AV SWITCHING VOLTAGE / TENS. DI COMMUTAZ. AV

K 1/2 — NORM/STANDARD/NORMA — KOINZIDENZ/COINCIDENCE/COINCIDENZA — LAUTSTÄRKE/VOLUME — RAUMKL. BASISVERBR. EIN/AUS/SPATIAL SOUND-BASIC WIDHT CONTR. ON/OFF — AUDIO SPAZIALE, AMPLIAM. BASE ACC./SPENTO — FARBKONTRAST/CONTRAST COLOUR/CONTR. COLORE — HELLIGKEIT/BRIGHTNESS/LUMINOSITÀ — KONTRAST/CONTRAST/CONTRASTO

5K R392 K — 5K R390 L — 330K R393 — 180K R391 — 180K R397 — 220K R399 — 5K R398 FK — 3,9K R398A — 10K R394A — 47K R394 H — +L

100K R388 — 330K R389 — 10K R387 — +B — 100 R350 — +C — 2,2M C338 — 220U/10V C336 — +H

CLK — DATA — CLOCK — TUS 1

22K R338 — F C356 — 22K C351 — FBAS 2,3Vss CCVS

FARB/RGB 29504-005.33
COLOUR/RGB
COLORE/RVB

P/S-DECODER 29504-046.31

0,1U C353 — L355 — R G/V B

SUPER SANDCASTLE

BILDAUSTASTIMPULS
FRAME BLANKING PULSE
IMP. DI SOPPR. DI QUADRO

220 R372 ROT/RED/ROSSO — 220 R371 GRÜN/GREEN/VERDE — 220 R373 BLAU/BLUE/BLU

SIGNAL TON / SIGNAL TONE / SEGNALE AUDIO

ZPD 7,5 D352 — 2,7K R352 — 0,22U C352 — 22U/16V C351 — TD041 D351 — 560K R351

SPITZENSTRAHLSTROM
PEAK BEAM CURRENT
CORR. CATODICA DI PICCO

TUS 1 — CLOCK — DATA/DATI

VIDEOTEXT 29504-008.01
TELETEXT/TELEVIDEO
ODER/OR/OPP.
-018.01 (GB)
-008.81 (SK)
BILDSCHIRMTEXT
VIEWDATA / VIDEOTEL

FBAS CCVS

* (BEI BESTÜCKUNG MIT BT. BRÜCKE 1 ENTFERNEN)
(WHEN FITTING VIEWDATA MOD. REMOVE BRIDGE 1)
(NELL'INSERIRE IL MOD. VIDEOTEL, TOGLIERE IL PONTE 1)

56 R354 — FBAS 1,5Vss CCVS — 68 R356

ABLENKUNG 29504-007.0
DEFLECTION
DEFLESSIONE

30W-VERS.
NF-ENDSTUFE 29504-004.33
AF OUTPUT STAGE
STADIO FINALE BF
15W-VERS. -004

34V (30W)

MITTLERE
AVERAGE BEAM CUR

CUC 741 (2x30W)
CUC 732 (2x15W)

SIGNAL-CHASSIS (30W) 29701-031.02 VERS. A STEREO
TELAIO SEGNALE -031.07 VERS. A STEREO
-031.17 VERS. A RAUMKL. IT.
-031.22 VERS. B STEREO
-031.27 VERS. B STEREO IT.
-031.33 VERS. B RAUMKL. GB
-031.36 VERS. C RAUMKL. IT.

(15W) 29701-032.03 VERS. A STEREO
-032.06 VERS. A STEREO P/S
-032.07 VERS. A STEREO IT.
-032.16 VERS. A RAUMKL. IT.
-032.23 VERS. C STEREO
-032.36 VERS. C RAUMKL. IT.

KEYBOARD 29304-071.15 VERS. A
-071.17 VERS. A IT.
-044.41 VERS. B
-044.43 VERS. B IT.
-044.29 VERS. C
-044.35 VERS. C IT.

KEYBOARD BEI VERS B+C AUSSERHALB VOM CHASSIS
KEYBOARD ON VERS. B+C OUTSIDE OF CHASSIS
MELLE VERS. B+C LA TASTIERA È AL DI FUORI DEL TELAIO

B E C — BC 548 / S 298T

D324 — 1,5M R532 — 1N 4004 D534 — 4,7U/350V C532 — S 298T T534 — 100K R353 — 47K R355 — 1K R533 — 220K R531 — 10K R534 — TD041 D355 — +B — +C

SCHUTZSCHALTUNG / CIRCUIT PROTECTION / CIRCUITO DI PROTEZIONE

220U/25V C539

A/5 B/8 C/5 B/1 B/6 B/5 B/3 B/2 — +C (200V) — +M' (19V) — +L (15V) — +F (15V) — +B (12V) — +E (8,5V) — +H (5V)

(HI FI) A/4 B/7 A/3 — REL. 653 — NETZTEIL-CHASSIS / MAINS SECTION CHASSIS / TELAIO ALIMENTATORE

(TV) C/6 — T 312 — WISCHERSCHALTUNG / START TRIGGERING CIRCUIT / CIRCUITO ACCOPP. MOMENTANEO

D/2 D/3 — C702 BR-PLATTE / CRT BASE / PIASTRA CINESCOPIO

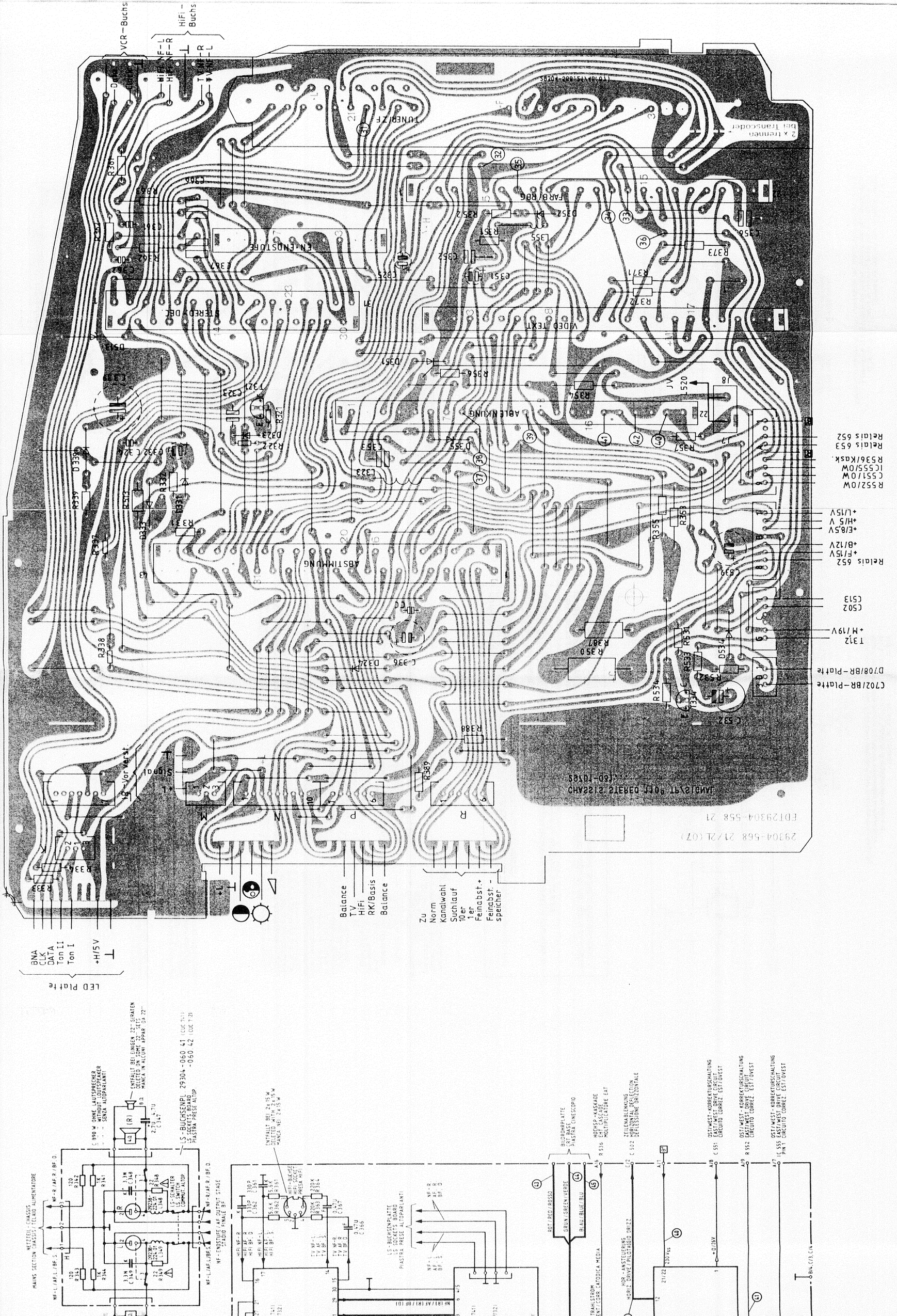
D/1 — D708 BR-PLATTE / CRT BASE / PIASTRA CINESCOPIO

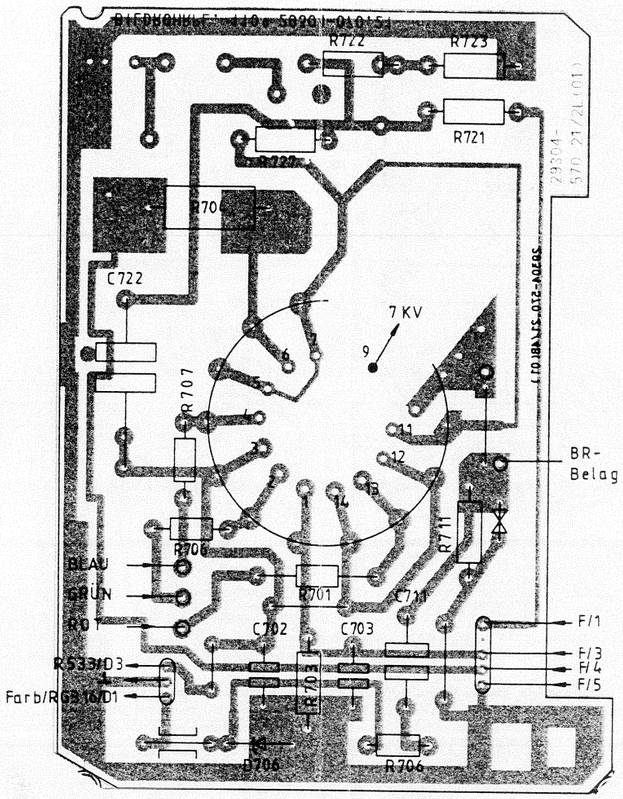
C/1 — C513 ZEILENABLENKUNG / HORIZONTAL DEFLECTION / DEFLESSIONE ORIZZONTALE

J7 J8 — Jv L520

PRINTED IN GERMANY

ÄNDERUNGEN VORBEHALTEN / ALTERATIONS RESERVED / CON RISERVA DI MODIFICHE


VCR-Buchse
HiFi-Buchse
TUNER/ZF
FARB/RGB
VIDEO EXT
ABSTIMMUNG
ABLENKUNG
EIN-/AUSSTUFE
Bei Transcoder 2 x trennen
Relais 652
Relais 653
+M/19V
+F/15V
+B/12V
+E/8,5V
+H/5 V
+L/15V
Balance
TV
HiFi
RK/Basis
Balance
Zu
Norm
Kanalwahl
Suchlauf
10er
1er
Feinabst.+
Feinabst.-
speicher
LED Platte
BNA
CLK
DATA
Ton II
Ton I
+H/5 V
MAINS SECTION CHASSIS/TELAIO ALIMENTATORE
LS-BUCHSENPL. 29304-060.41 (CUC 731)
LS SOCKETS BOARD 060.42 (CUC 732)
PIASTRA PRESE ALTOP
BILDRÖHRENPLATTE CRT BASE PIASTRA CINESCOPIO
HOCHSP.-KASKADE CRT CASCADE MOLTIPLICATORE EAT
ZEILENABLENKUNG HORIZONTAL DEFLECTION DEFLESSIONE ORIZZONTALE
HOR.-ANSTEUERUNG HORIZ.DRIVE/PILOTAGGIO ORIZZ.
DST/WEST-KORREKTURSCHALTUNG EAST/WEST DRIVE CIRCUIT CIRCUITO CORREZ. EST/OVEST
ROT/RED/ROSSO
GRÜN/GREEN/VERDE
BLAU/BLUE/BLU
STRAHLSTROM CURRENT CORR. CATODICA MEDIA
+M/19V
+D/26V
230 Vss
21/22
T312
C702/BR-Platte
D708/BR-Platte
29304-568.21/2L(07)
EDI29304-558.21



Servicehinweise für Schaltnetzteil: Gerät mit Netztrenntransformator betreiben. Primärseite des Schaltnetzteiles liegt an Netzpotential. Bei fehlender Sekundärspannung oder Takten des Netzteiles Sekundärstromkreise einzeln unterbrechen und Funktion überprüfen.
Suchschema bei Nichtschwingen des Sperrwandlers.

- ⟶ Anlaufspannung (Pin 9/5) < 8 V Anlauf über Di 616 u. R 616.
- ⟶ Referenzspannung (Pin 1) ca. 6 V
- ⟶ Startimpuls (Pin 4) (1)
- ⟶ Basisstromansteuerung (Pin 7) (2)

C 626 muß vor Wechsel des IC 631 entladen sein! Netzteilregelbereich 160 bis 260 V~

Service hints for switch-mode power supply: operate set with mains-isolating transformer (n. b. the primary side of the SM power supply is normally not isolated, if there is no secondary voltage or the power supply pulsates, disconnect the secondary circuits individually and check operation. Fault finding scheme if blocking function prevents oscillation:

- ⟶ Starting voltage (Pin 9/5) < 8 V, starting via Di 616 and R 616
- ⟶ Reference voltage (Pin 1) approx. 6 V
- ⟶ Start pulse (Pin 4) (1)
- ⟶ Base current drive (Pin 7) (2)

Before replacement of IC 631, C 626 must be discharged. Power supply range 160 to 260 V AC.

Avvertenze di Servizio dell'alimentatore: Alimentare l'apparecchio con un trasformatore separatore. Il lato primario dell'alimentatore è a potenziale di rete. Se viene a mancare la tensione del secondario o in caso di intervento ritmico dell'alimentatore, interrompere uno alla volta i circuiti dell secondario e controllarne la funzione. Se il trasduttore di interdizione non viene eccitato, ricercare il guasto secondo lo schema seguente:

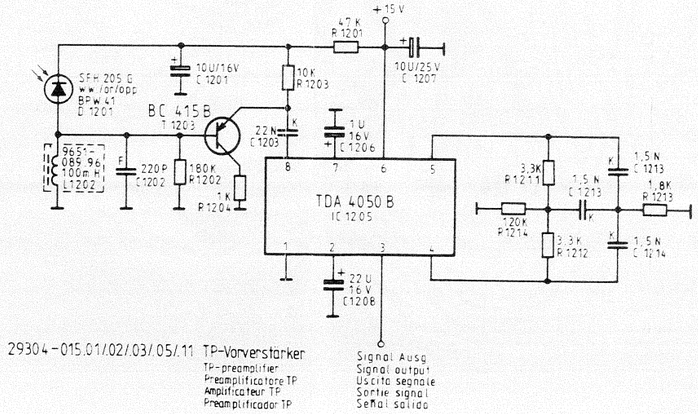
- ⟶ Tensione di avviamento (pin 9/5) < 8 V. Avviamento tramite Di 616 e R 616.
- ⟶ Tensione di riferimento (pin 1) ca. 6 V.
- ⟶ Impulso di avviamento (pin 4) (1)
- ⟶ Pilotaggio della corrente di base (pin 7) (2)

Il C 626 deve essere scarico prima di cambiare l'IC 631! Campo di regolazione dell'alimentatore: 160 a 260 V ~.

Die mit ⚠ bezeichneten Bauteile sind nach den Richtlinien des VDE bzw. IEC für die Gerätesicherheit und die mit ⚠ bezeichneten für die einwandfreie Gerätefunktion unbedingt notwendig. Im Ersatzfall dürfen nur Originalteile Verwendung finden.

The components marked ⚠ conform to VDE or IEC guidelines and are essential for safe operation of the set, while those marked ⚠ are required for correct operation. Use specified parts only when replacing.

I componenti ⚠ hanno la massima importanza per la sicurezza dell'apparecchio e sono conformi alle norme VDE o IEC e quelli ⚠ sono assolutamente necessari per il funzionamento perfetto dell'apparecchio. In caso di sostituzione impiegare quindi soltanto pezzi di ricambio originali.



29304-015.01/.02/.03/.05/.11 TP-Vorverstärker
TP-preamplifier
Préamplificateur TP
Amplificateur TP
Preamplificador TP

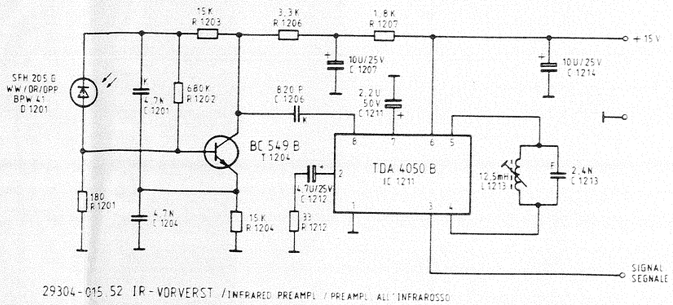
Signal Ausg.
Signal output
Uscita segnale
Sortie signal
Señal salida

Kein Anpassungsabgleich bei Austausch der Steckkarte notwendig
When replacing the plug-in board, no alignment is necessary
No è necessaria nessuna taratura di adattamento dopo la sostituzione di una scheda ad innesto

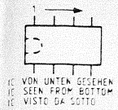
Hinweis für den Fachhandel!
Bei Ausfall von Steckkarten empfehlen wir grundsätzlich unseren Austauschdienst. Auf Mikroplanfilm sind hierfür aber auch Serviceanleitungen erhältlich.

Information for dealers!
If a plug-in board becomes defective, we recommend you replace it. However, if you wish to repair a board separate service instructions are available for the plug-in boards.

Avvertenza per i rivenditori specializzati!
In caso di schede ad innesto difettose consigliamo in primo luogo di rivolgersi al nostro Servizio permuta. Comunque, per riparazioni di propria iniziativa, sono a disposizione microfilm corredati di istruzioni di servizio.



29304-015.52 IR-VORVERST /INFRARED PREAMPL / PREAMPL ALL'INFRAROSSO



Kein Anpassungsabgleich bei Austausch der Steckkarte notwendig
When replacing the plug-in board, no alignment is necessary
No è necessaria nessuna taratura di adattamento dopo la sostituzione di una scheda ad innesto